

Accountancy – Class XII
Marking Scheme (2019-20)

PART A
(Accounting for Not-for-Profit Organizations, Partnership Firms and Companies)

1	Balance Sheet of ___ NPO. as on ___ Date	(1)																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Liabilities</th> <th style="width: 15%;">Amount (₹)</th> <th style="width: 30%;">Assets</th> <th style="width: 25%;">Amount (₹)</th> </tr> </thead> <tbody> <tr> <td>Tournament Fund</td> <td style="text-align: right;">80,000</td> <td></td> <td></td> </tr> <tr> <td>Less: Tournament expenses</td> <td style="text-align: right;">14000</td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">66,000</td> <td></td> <td></td> </tr> </tbody> </table>			Liabilities	Amount (₹)	Assets	Amount (₹)	Tournament Fund	80,000			Less: Tournament expenses	14000				66,000		
Liabilities	Amount (₹)	Assets	Amount (₹)															
Tournament Fund	80,000																	
Less: Tournament expenses	14000																	
	66,000																	

2	(c) 6% p.a.	(1)
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3	iii. for the debts of the firm to the third parties; i. to each partner proportionately what is due to him/her from the firm for advances as distinguished from capital (i.e. partner' loan); ii. to each partner proportionately what is due to him on account of capital	(1)
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4	b) ₹ 45,000	(1)
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5	7 ½ months	(1)
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6	Journal	(1)																									
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7	Total Capital as per C's Share (4,00,000 X (5/1)) 20,00,000 Less Actual capital of A,B,C (10,00,000 + 4,00,000) 14,00,000 Value of firm's Goodwill 6,00,000 ===== C's share of Goodwill = 6,00,000X (1/5) = ₹ 1,20,000	(1/2)
		(1/2)

8	Journal	(1)										
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9	Journal	
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Date	Particulars	L.F	Dr Amount (₹)	Dr Amount (₹)																										
2019 April, 1	Investment Fluctuation Reserve A/c Dr. To Investment A/c To A's capital A/c To B's Capital A/c (Being the transfer of excess Investment Fluctuation reserve to partner's capital account in old profit sharing ratio)		60,000	20,000 24,000 16,000																										
10	because the claim of the partner against the firm is increased by the amount of liability assumed.			(1)																										
11	C's Share acquired from A and B each = $\frac{1}{5} \times \frac{1}{2} = \frac{1}{10}$ A's Share = $\frac{3}{5} - \frac{1}{10} = \frac{5}{10}$ B's Share = $\frac{2}{5} - \frac{1}{10} = \frac{3}{10}$ New Profit Sharing ratio of A: B: C is 5:3:2 Yes, new profit sharing ratio is 5:3:2			1																										
12	b) ₹ 2,50,000			(1)																										
13	Reserve Capital			(1)																										
14	<p>a) Statement Showing Expenditure on Medicine consumed during the year ending 31st March, 2019:-</p> <table border="1"> <thead> <tr> <th>Particulars</th> <th>Amount (₹)</th> </tr> </thead> <tbody> <tr> <td>Amount paid for medicines during the year</td> <td>2,00,000</td> </tr> <tr> <td>Add: Opening Stock of medicines</td> <td>50,000</td> </tr> <tr> <td>Less: Closing stock of medicines</td> <td>(95,000)</td> </tr> <tr> <td>Less: Opening Creditors</td> <td>(20,000)</td> </tr> <tr> <td>Add: Closing creditors</td> <td>10,000</td> </tr> <tr> <td>Medicine consumed during the year</td> <td><u>1,45,000</u> -----</td> </tr> </tbody> </table> <p style="text-align: center;">Or</p> <table border="1"> <thead> <tr> <th>Basis of distinction</th> <th>Income and Expenditure</th> <th>Receipt and Payment Account</th> </tr> </thead> <tbody> <tr> <td>Nature</td> <td>It is like as profit and loss account, hence is a nominal account.</td> <td>It is the summary of the cash book, hence a real account.</td> </tr> <tr> <td>Nature of Items</td> <td>It records items of Revenue and expense nature only.</td> <td>It records receipts and payment of cash and bank.</td> </tr> <tr> <td>Period</td> <td>Items in Income and Expenditure account relate to the current period.</td> <td>Receipts and payments items may relate to preceding and succeeding periods.</td> </tr> </tbody> </table>	Particulars	Amount (₹)	Amount paid for medicines during the year	2,00,000	Add: Opening Stock of medicines	50,000	Less: Closing stock of medicines	(95,000)	Less: Opening Creditors	(20,000)	Add: Closing creditors	10,000	Medicine consumed during the year	<u>1,45,000</u> -----	Basis of distinction	Income and Expenditure	Receipt and Payment Account	Nature	It is like as profit and loss account, hence is a nominal account.	It is the summary of the cash book, hence a real account.	Nature of Items	It records items of Revenue and expense nature only.	It records receipts and payment of cash and bank.	Period	Items in Income and Expenditure account relate to the current period.	Receipts and payments items may relate to preceding and succeeding periods.			$\frac{1}{2} \times 6$
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	K's Capital Account To Realization A/c (Being unrecorded machine taken over by a partner)	Dr		3,000		3,000	
	R's Capital A/c K's Capital A/c S's Capital A/c To Profit and Loss A/c (being debit balance of Profit and Loss distributed amongst partners)	Dr Dr Dr		5,000 5,000 5,000		15,000	

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Dr. Income and Expenditure Account For the year ended 31st March,2019 Cr

Expenditure	Amount (₹)	Income	Amount (₹)
To Advertisement	13,100	By Donations	20,000
To Rent, Rates and Taxes	14,000	By Proceeds from Charity show	16,200
To Repairs	15,000	By Subscription	52,000
To Printing and Stationery	16,000	By Entrance fees	6,000
To Telephone expenses	1,000	By Interest on investments	7,200
To Depreciation on furniture (70000x15/100x9/12)	7,875		
To excess of Income over expenditure	34,425		
	<u>1,01,400</u>		<u>1,01,400</u>
	=====		=====

(½ X
10) = 5
+ 1
(subs)

Dr Subscription Account Cr

Particulars	Amount (₹)	Particulars	Amount (₹)
To Subscription in arrears in the beginning	6,000	By Subscription in advance at end	4,000
To Income and Expenditure	52,000	By Receipts and Payments	52,000
To Subscription in advance at end	5,000	By Subscription in arrears at end	7,000
	63,000		63,000

20

Journal

Date	Particulars	L.F	Amount (₹)	Amount (₹)
	Bank A/c To Deb Application and Allotment A/c (Being the application money received)	Dr.	1,05,000	1,05,000
	Debenture Application and Allotment A/c Loss on Issue of Debenture A/c To 12% Debenture A/c To Security Premium Reserve To Premium on Redemption A/c (Being 1,000 debentures issued at a premium of 5% and redeemable at 2% premium)	Dr Dr	1,05,000 2,000	100000 5000 2000
	Vendor A/c Discount on issue of Debenture A/c To 12% Debenture (Being Debentures issued to vendors at a	Dr	9,00,000 1,00,000	10,00,000

a)

[2]

[2]

[2]

[2]

b)	discount of 10%)					
	Debenture Suspense A/c Dr To 11% Debenture A/c (Being 10,000 11% debentures of ₹ 100 issued as collateral security)			1000000	1000000	[2]

Or

c)	Date	Particulars	L.F	Amount (₹)	Amount (₹)	
		Debenture Redemption Investment A/c Dr To Bank A/c (being specified investments purchased)		30,000	30,000	[1 ½]
		10% Debenture A/c Dr To Debenture Holder A/c (being debenture due for redemption)		2,00,000	2,00,000	[1 ½]
		Debenture Holder A/c Dr To Bank A/c (Being payment made to debenture holders)		2,00,000	2,00,000	[1 ½]
		Debenture Redemption Reserve A/c Dr To General Reserve A/c (Being the transfer of Debenture Redemption Reserve to General Reserve on the redemption of debentures)		50,000	50,000	[1 ½]

21	Dr.	Revaluation Account		Cr.	
	Particulars	Amount (₹)	Particulars	Amount (₹)	
	To Machinery A/c	21,000	By Stock A/c	70,000	
	To Furniture A/c				
	To Provision for doubtful debts	5,000			
	To partner's Capital A/c- Gain on revaluation	8,000			
	Gautam's Capital A/c 27,000	36,000			
	Yashica's Capital A/c 9,000				
		70,000		70,000	
		=====		=====	

	Dr.	Partner's Capital Account				Cr.			
	Particulars	Gautam (₹)	Yashica (₹)	Asma (₹)	Particulars	Gautam (₹)	Yashica (₹)	Asma (₹)	
	To Gautam's current A/c	2,67,000	----	----	By balance b/d	4,00,000	1,00,000	---	
					By Revaluation A/c	27,000	9,000	---	
					By Bank A/c	---	----	2,10,000	
					By Premium for Goodwill	50,000	---	-----	
	To balance c/d	2,10,000	1,40,000	2,10,000	By Yashica's current A/c		31,000	-----	
		4,77,000	1,40,000	2,00,000		4,77,000	1,40,000	2,10,000	
		=====	=====	=====		=====	=====	=====	

**Balance sheet of Gautam, Yashica and Asma
As at 31.3.2018**

Liabilities	Amount (₹)	Assets	Amount (₹)
Sundry Creditors	50,000	Cash	3,50,000
Bills Payable	30,000	Debtors	80,000
Capital Accounts:-		(-) Provision for doubtful debts	8,000
Gautam- 2,10,000		Stock	2,10,000
Yashica- 1,40,000		Furniture	60,000
Asma <u>2,10,000</u>	5,60,000	(-) Depreciation	5,000
Gautam's current A/c	2,67,000	Machinery	2,10,000
		(-) Depreciation	21,000
		Yashica's current A/c	31,000
	<u>9,07,000</u>		<u>9,07,000</u>
	=====		=====

[2]

Working Note:- Total Capital of the firm = $2,10,000 \times \frac{8}{3}$

$$= 5,60,000$$

Gautam's capital in the firm = $5,60,000 \times \frac{3}{8}$

$$= 2,10,000$$

Yashica's capital in the firm = $5,60,000 \times \frac{2}{8}$

$$= 1,40,000$$

OR

Dr.		Revaluation Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To Provision for doubtful debts	700	By Creditors A/c	2,500		
To Partner's Capital A/c – Gain on Revaluation					
X	900				
Y	600				
Z	<u>300</u>				
	1,800				
	<u>2,500</u>				
	=====			<u>2,500</u>	
				=====	

[3]

Dr.				Partner's Capital Account				Cr.			
Particulars	X (₹)	Y (₹)	Z (₹)	Particulars	X (₹)	Y (₹)	Z (₹)				
To Z's capital A/c	9,000	----	3,000	By balance b/d	90,000	60,000	30,000				
To Cash a/c	---	9,000	----	By Reserve A/c	3,000	2,000	1,000				
To Y's Loan A/c	----	68,600	----	By Revaluation A/c	900	600	300				
To balance c/d	90,000		30,000	By Workmen compensation Fund A/c	4,500	3,000	1,500				
				By X's Capital A/c	---	9,000	----				
				By Y's Capital A/c	----	3,000	----				
				By Cash A/c	600	----	200				
	<u>99,000</u>	<u>77,600</u>	<u>33,000</u>		<u>99,000</u>	<u>77,600</u>	<u>33,000</u>				
	=====	=====	=====		=====	=====	=====				

[3]

Balance sheet of X and Z
As at 31st March, 2018

Liabilities	Amount (₹)	Assets	Amount (₹)
Sundry Creditors	14,100	Cash	6,800
Y's Loan A/c	68,600	Debtors	21,000
Capital Accounts:-		(-) Provision for doubtful debts	2,100
X- 90,000		Stock	19,000
Y- <u>30,000</u>	1,20,000	Machinery	58,000
		Building	1,00,000
	<u>2,02,700</u>		<u>2,02,700</u>

[2]

Working note:-

1. Calculation of Gaining Ratio:

	X	Y	Z
Old Ratio	3/6	2/6	1/6
New Ratio	3/4	--	1/4
Gaining Ratio	3/12	---	1/12

2. Y's share of Goodwill $36,000 \times \frac{2}{6} = 12,000$

22

Date	Particulars	L.F	Amount (₹)	Amount (₹)
	Bank A/c Dr To Share Application A/c (Being application money received)		36,00,000	36,00,000
	Share Application A/c Dr To Share Capital A/c To Call in Advance A/c (being application money transferred to share capital, securities premium reserve, calls)		36,00,000	24,00,000 12,00,000
	Share Allotment A/c Dr To Share Capital A/c To Security Premium Reserve A/c (Being allotment money due)		24,00,000	16,00,000 8,00,000
	Bank A/c Dr Call in Advance A/c Dr Call in arrear A/c Dr To Share Allotment A/c (Being first call money received)		11,76,000 12,00,000 24,000	24,00,000
	Share First Call A/c DR To Share Capital A/c (Being first call money due)		24,00,000	24,00,000
	Bank A/c Dr Call in Arrears A/c Dr To Share First Call (Being first call money received)		22,32,000 1,68,000	24,00,000
	Share Capital A/c Dr Security Premium Reserve A/c Dr To Call in Arrear A/c DR To Share Forfeited A/c (Being Dhvani and Sargam's share's forfeited for non- payment of allotment and/or call money)		4,48,000 16,000	2,72,000 1,92,000
	Bank A/c Dr To Share Capital A/c		19,00,000	1,60,000

[½]

[1]

[½]

[1]

[½]

[1]

(any other relevant point to be marked)						
27	Cash flow from Investing Activities					
	Inflows	Amount (₹)				
	Dividend Received	70,000	[½]			
	Sale of Old Machinery	69,000				
	Outflows					
	Purchase of Machinery	(9,00,000)	[½]			
	Net Cash outflow from Investing Activities	(7,61,000)]			
28	False.		[1]			
29	Answer – I-c; II- b; III- a		[1]			
30	Net Profit Before Tax – Tax paid = Net Profit After Tax					
	$x - 30/100 (x) = ₹ 7,00,000$					
	$x = ₹ 7,00,000 (100/70)$					
	$x = ₹ 10,00,000$					
	Net Profit Before Tax = ₹ 10,00,000					
	Interest Payment = $6/100 (₹ 20,00,000) = ₹ 1,20,000$		[1]			
	Earning Before Interest and Tax = Net Profit Before Tax + Interest Payment					
	$= ₹ 10,00,000 + ₹ 1,20,000$					
	$= ₹ 11,20,000$		[1]			
	Interest Coverage ratio = $\frac{\text{Earning Before Interest and Tax}}{\text{Interest Expense}}$					
Interest Coverage Ratio = ₹ 11,20,000/ ₹ 1,20,000		[1]				
Interest Coverage Ratio = 9.33 times						
Or						
S. No	Item	Major Head	Sub Head			
i.	Debentures with maturity period in current financial year	Current Liabilities	Other Current Liabilities			
ii)	Securities Premium Reserve	Shareholder's Fund	Reserves and Surplus			
iii)	Provident Fund	Non-Current Liabilities	Long Term Provision			
31	Particulars	2016-17 (₹)	2017-18 (₹)	Absolute Increase/ Decrease (₹)	Percentage Increase/ Decrease (%)	
	Revenue from Operations	10,00,000	12,00,000	2,00,000	20%	[½ X 8]
	Add other Income	50,000	60,000	10,000	20%	
	Total Revenue	10,50,000	12,60,000	210,000	20%	
	Less Employee Benefit Expenses	50,000	60,000	10,000	20%	
	Profit before tax	10,00,000	12,00,000	2,00,000	20%	
	Less Tax (50%)	5,00,000	6,00,000	1,00,000	20%	
	Profit after tax	5,00,000	6,00,000	1,00,000	20%	
Or						

Common Size Balance Sheet of R Ltd.
As at 31st March, 2018 and 2019

Particulars	Note no.	Absolute Amounts		Percentage of Balance sheet Total	
		31.3.2018 (₹)	31.3.2019 (₹)	31.3.2018 (%)	31.3.2019 (%)
I EQUITY AND LIABILITIES					
1. Shareholder's Funds:					
a. Share Capital		4,00,000	5,00,000	66.7	62.5
b. Reserve and Surplus		1,20,000	1,60,000	20	20
2. Current Liabilities:					
a. Trade Payable		80,000	1,40,000	13.3	17.5
Total		6,00,000	8,00,000	100	100
II ASSETS					
1. Non-Current Assets:					
a. Fixed Assets:					
i. Tangible Assets		2,40,000	3,20,000	40	40
ii. Intangible Assets		60,000	40,000	10	5
2. Current Assets					
a. Inventories		60,000	1,60,000	10	20
b. Trade Receivables		2,00,000	2,40,000	33.3	30
c. Cash and Cash Equivalents		40,000	40,000	6.7	5
Total		6,00,000	8,00,000	100	100

32

Cash Flow Statement As per AS 3 (Revised)

Particulars		
I Cash from Operating Activity		
Net Profit Before Tax		
Profit during the year	1,50,000	
Add transfer to Reserve	<u>50,000</u>	
		2,00,000
Add:- Non Cash Non-Operating Expenses		
Depreciation provided	40,000	
Loss on Sale of Assets	18,000	
Goodwill Amortised	<u>5,000</u>	63,000
Less Non-Operating Income	--	-----
Operating Profit before Working Capital		2,63,000
Add Increase in Trade Payable	17,000	<u>17,000</u>
		2,80,000
Less : Increase in Inventory	(75,000)	
Increase in Trade Receivable	(67,000)	<u>(1,42,000)</u>
Cash From Operating Activities before Tax		1,38,000
Less Tax Paid		<u>(30,000)</u>
Cash From Operating Activities After tax		<u>1,08,000</u>

[4]

31	<p>PMT :- The PMT function calculates the periodic payment for an annuity assuming equal payments and a constant rate of interest. The syntax of PMT function is as follows: = PMT (rate, nper, pv, [fv], [type])</p> <p>where Rate is the interest rate per period, Nper is the number of periods, Pv is the present value or the amount the future payments are worth presently, future value or cash balance that after the last payment is made (a future value of zero when we omit this optional argument)</p> <p>Type is the value 0 for payments made at the end of the period or the value 1 for payments made at the beginning of the period. The PMT function is often used to calculate the payment for mortgage loans that have a fixed rate of interest</p>	[4]
32	<p>A format change, such as background cell shading or font colour that is applied to a cell when a specified condition for the data in the cell is true. Conditional formatting is often applied to worksheets to find:</p> <ol style="list-style-type: none"> a. Data that is above or below a certain value. Duplicate data values. b. Cells containing specific text. Data that is above or below average. c. Data that falls in the top ten or bottom ten values. <p>Benefits of using conditional formatting:</p> <ol style="list-style-type: none"> i) Helps in answering questions which are important for taking decisions. ii) Guides with help of using visuals. iii) Helps in understanding distribution and variation of critical data. 	[6]

Accountancy – Class XII

SQP (2019-20)

General Instructions :

- (i) This question paper contains two parts – A and B.
- (ii) Part A is compulsory for all.
- (iii) Part B has two options – Analysis of Financial Statements and Computerised Accounting.
- (iv) Attempt only one option of Part B.
- (v) All parts of a question should be attempted at one place.

PART A (Accounting for Not-for-Profit Organizations, Partnership Firms and Companies)						
1	How are the following items presented in financial statements of a Not-for- Profit organisation:- (a) Tournament Fund- ₹ 80,000 (b) Tournament expenses- ₹ 14,000	1				
2	At what rate is interest payable on the amount remaining unpaid to the executor of deceased partner, in absence of any agreement among partners, when (s)he opts for interest and not share of profit. (a) 12% p.a. (b) 8% p.a. (c) 6% p.a. (d) 7.5%p.a.	1				
3	State the order of payment of the following, in case of dissolution of partnership firm. i. to each partner proportionately what is due to him/her from the firm for advances as distinguished from capital (i.e. partner' loan); ii. to each partner proportionately what is due to him on account of capital; and iii. for the debts of the firm to the third parties;	1				
4	A and B are partners in a firm having a capital of ₹ 54,000 and ₹ 36,000 respectively. They admitted C for 1/3 rd share in the profits C brought proportionate amount of capital. The Capital brought in by C would be: a) ₹ 90,000 b) ₹ 45,000 c) ₹ 5,400 d) ₹ 36,00	1				
5	Amit, a partner in a partnership firm withdrew ₹ 7,000 in the beginning of each quarter. For how many months would interest on drawings be charged?	1				
6	Ankit, Unnati and Aryan are partners sharing profits in the ratio of 5:3:2. They decided to share future profits in the ratio of 2:3:5 with effect from 1 st April,2018. They had the following balance in their balance sheet, passing necessary Journal Entry:	1				
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Particulars</th> <th style="text-align: right;">Amount(₹)</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Profit and loss Account (Dr)</td> <td style="text-align: right;">60,500</td> </tr> </tbody> </table>		Particulars	Amount(₹)	Profit and loss Account (Dr)	60,500	
Particulars	Amount(₹)					
Profit and loss Account (Dr)	60,500					
7	A and B are partners in a firm. They admit C as a partner with 1/5 th share in the profits of the firm. C brings ₹ 4,00,000 as his share of capital. Calculate the value of C's share of Goodwill on the basis of his capital, given that the combined capital of A and B after all adjustments is ₹ 10,00,000	1				
8	Riyansh, Garv and Kavleen were partners in a firm sharing profit and loss in the ratio of 8:7:5. On 2 nd November 2018, Kavleen died. Kalveen's share of profits till the date of her death was	1				

16	<p>Maanika, Bhavi and Komal are partners sharing profits in the ratio of 6:4:1. Komal is guaranteed a minimum profit of ₹ 2,00,000. The firm incurred a loss of ₹22,00,000 for the year ended 31st March,2018. Pass necessary journal entry regarding deficiency borne by Maanika and Bhavi and prepare Profit and Loss Appropriation Account.</p> <p style="text-align: center;">OR</p> <p>The partners of a firm, Alia, Bhanu and Chand distributed the profits for the year ended 31st March, 2017, ₹ 80,000 in the ratio of 3:3:2 without providing for the following adjustments:</p> <p style="margin-left: 40px;">a) Alia and Chand were entitled to a salary of ₹ 1,500 each p.m. b) Bhanu was entitled for a salary of ₹ 4,000 p.a.</p> <p>Pass the necessary Journal entry for the above adjustments in the books of the firm. Show workings clearly.</p>	4																																																				
17	<p>Bliss Products Ltd. registered with capital of ₹ 90,00,000 divided into 90,000 equity shares of ₹ 100 each. The company issued prospectus inviting applications for 50,000 equity shares of ₹ 100 each payable as ₹ 20 on application, ₹ 30 on allotment, ₹ 20 on first call and balance on second call.</p> <p>Applications were received for ₹40,000 shares. Raman to whom 1600 shares were allotted failed to pay final call money and these shares were forfeited. Of the forfeited shares, 600 shares were reissued to Sukhman, credited as fully paid for ₹ 90 per share.</p> <p>Present the Share Capital as per Schedule III of Companies Act, 2013</p>	4																																																				
18	<p>The firm of R, K and S was dissolved on 31.3.2019. Pass necessary journal entries for the following after various assets (other than cash and Bank) and the third party liabilities had been transferred to realisation account.</p> <p style="margin-left: 40px;">(i) K agreed to pay off his wife's loan of ₹ 6,000. (ii) Total Creditors of the firm were ₹ 40,000. Creditors worth ₹10,000 were given a piece of furniture costing ₹8,000 in full and final settlement. Remaining creditors allowed a discount of 10%. (iii) A machine that was not recorded in the books was taken over by K at ₹ 3,000 whereas its expected value was ₹ 5,000. (iv) The firm had a debit balance of ₹ 15,000 in the profit and loss A/c on the date of dissolution.</p>	4																																																				
19	<p>From the following Receipts and Payments Accounts of Rolaxe Club, for the year ended 31st March, 2019. Prepare Income and Expenditure Account for the year ended 31st March, 2019.</p> <p style="text-align: center;">Receipts and Payments Account for the year ended 31st March, 2019</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Receipts</th> <th style="width: 15%;">Amount (₹)</th> <th style="width: 35%;">Payments</th> <th style="width: 15%;">Amount (₹)</th> </tr> </thead> <tbody> <tr> <td>To Balance b/d</td> <td></td> <td>By Advertisement</td> <td>13,100</td> </tr> <tr> <td> Cash in hand</td> <td>17,050</td> <td>By Rent rates and Taxes</td> <td>14,000</td> </tr> <tr> <td> Current a/c with bank</td> <td>18,570</td> <td>By Repairs</td> <td>15,000</td> </tr> <tr> <td>To Donations</td> <td>20,000</td> <td>By Printing and Stationery</td> <td>16,000</td> </tr> <tr> <td>To Proceeds from charity</td> <td>16,200</td> <td>By Government Bonds</td> <td>5,000</td> </tr> <tr> <td>Show</td> <td></td> <td></td> <td></td> </tr> <tr> <td>To Subscription</td> <td>52,000</td> <td>By Telephone Expenses</td> <td>1,000</td> </tr> <tr> <td>To Life membership fees</td> <td>5,250</td> <td>By Furniture (purchased on 1st July, 2018)</td> <td>70,000</td> </tr> <tr> <td>To Entrance Fees</td> <td>6,000</td> <td>By Balance c/d</td> <td></td> </tr> <tr> <td>To Interest on investment @ 7% for the year.</td> <td>7,200</td> <td> Cash in hand</td> <td>3,170</td> </tr> <tr> <td></td> <td></td> <td> Cash at Bank</td> <td>5,000</td> </tr> <tr> <td></td> <td style="text-align: right;">1,42,270</td> <td></td> <td style="text-align: right;">1,42,270</td> </tr> </tbody> </table> <p>Additional Information :-</p> <p style="margin-left: 40px;">i) Depreciate furniture by 15% p.a. ii) There were 416 Life Members on 31.3.2018 the subscription payable by each</p>	Receipts	Amount (₹)	Payments	Amount (₹)	To Balance b/d		By Advertisement	13,100	Cash in hand	17,050	By Rent rates and Taxes	14,000	Current a/c with bank	18,570	By Repairs	15,000	To Donations	20,000	By Printing and Stationery	16,000	To Proceeds from charity	16,200	By Government Bonds	5,000	Show				To Subscription	52,000	By Telephone Expenses	1,000	To Life membership fees	5,250	By Furniture (purchased on 1 st July, 2018)	70,000	To Entrance Fees	6,000	By Balance c/d		To Interest on investment @ 7% for the year.	7,200	Cash in hand	3,170			Cash at Bank	5,000		1,42,270		1,42,270	6
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	1,42,270		1,42,270																																																			

iii) member, to be a life time member is ₹ 125

Subscription outstanding on 31 st March, 2018	6,000
Subscription outstanding on 31 st March, 2019	7,000
Subscription received in advance on 31 st March, 2018	4,000
Subscription received in advance on 31 st March, 2019	5,000

- 20** Journalise the following transactions
- Mehar Ltd. issued ₹ 1,00,000, 12% Debentures of ₹ 100 each at a premium of 5% redeemable at a premium of 2%
 - 12 % Debentures were issued at a discount of 10% to a vendor of machinery for payment of ₹ 9,00,000
 - Issue of 10,000 11% debentures of ₹ 100 each as collateral in favour of State Bank of India. Company opted to pass necessary entry for issue of debentures.

Or

Faith and Belief Ltd has total redeemable debentures of ₹ 5,00,000. It decides to redeem these debentures in two instalments of ₹ 3,00,000 and ₹ 2,00,000 on December 31st 2018 and March 31st 2020 respectively. Assuming that the Company has sufficient funds in Debenture Redemption Reserve Account, pass necessary journal entries for the year ending March 31st 2020.

- 21** Gautam and Yashica are partners in a firm, sharing profits and losses in 3:1 respectively. The balance sheet of the firm as on 31st March 2018 was as follows:

**Balance Sheet
As at 31.3.2018**

Liabilities		Amt(₹)	Assets		Amt(₹)
Sundry creditors		50,000	Furniture		60,000
Bills payable		30,000	Stock		1,40,000
Capitals			Debtors		80,000
Gautam	4,00,000		Cash in hand		90,000
Yashica	1,00,000		Machinery		2,10,000
		5,00,000			
		5,80,000			5,80,000

Asma is admitted as a partner for 3/8th share in the profits with a capital of ₹2,10,000 and ₹50,000 for her share of goodwill. It was decided that:

- New profit sharing ratio will be 3:2:3
- Machinery will depreciated by 10% and Furniture by ₹5,000.
- Stock was re-valued at ₹ 2,10,000.
- Provision for doubtful debts is to be created at 10% of debtors.
- The capitals of all the partners were to be in the new profit sharing ratio on basis of capital of new partner any adjustment to be done through current accounts.

Prepare Revaluation Account, Partners Capital Account and the Balance Sheet of the new firm.

Or

X,Y and Z were in partnership sharing profits in proportion to their capitals. Their Balance Sheet as on 31st March, 2018 was as follows:

Liabilities	Amount (₹)	Particulars	Amount (₹)
Sundry Creditors	16,600	Cash	15,000
Workmen's Compensation Fund	9,000	Debtors 21,000 Less-Prov for Doubtful Debts (1400)	19,600
General Reserve	6,000	Stock	19,000

Capitals :		Machinery	58,000
X 90,000		Building	1,00,000
Y 60,000	1,80,000		
Z 30,000			
	2,11,600		2,11,600

On the above date, Y retired owing to ill health. The following adjustments were agreed upon for calculation of amount due to Y.

- Provision for Doubtful Debts to be increased to 10% of Debtors.
- Goodwill of the firm be valued at ₹ 36,000 and be adjusted into the Capital Accounts of X and Z, who will share profits in future in the ratio of 3:1.
- Included in the value of Sundry Creditors was ₹ 2,500 for an outstanding legal claim, which will not arise.
- X and Z also decided that the total capital of the new firm will be ₹ 1,20,000 in their profit sharing ratio. Actual cash to be brought in or to be paid off as the case may be.
- Y to be paid ₹ 9,000 immediately and balance to be transferred to his Loan Account.

Prepare Revaluation Account, Partner's Capital Accounts and Balance Sheet of the new firm after Y's retirement.

22 Saregama Ltd invited applications for issuing 80,000 equity shares of ₹ 100 each at a premium of ₹ 10. The amount was payable as follows **8**

On Application – ₹ 30

On allotment – ₹ 30 (including a premium of ₹ 10)

On 1st call – ₹ 30

On Final Call Balance

Applications of 1,20,000 shares were received. Allotment was made on pro rata basis to all applicants. Excess money received on application was adjusted on sums due on allotment.

Dhwani, who was allotted 1,600 shares, failed to pay allotment money and Sargam who applied for 6,000 shares did not pay 1st call money. These shares were forfeited immediately after 1st call. 2,000 of these shares (including all shares of Dhwani) were issued to Tarang for ₹ 95 per share as 80% paid up. Pass necessary journal entries in books of Saregama Ltd. by opening call in arrear, call in advance account, if final call has not been made.

Or

- X Ltd. forfeited 10 shares of ₹ 10 each, ₹ 7 called up on which the shareholder had paid application and allotment money of ₹ 5 per share. Out of these, 8 shares were re-issued to Y for ₹ 8 per share at ₹ 8 per paid up per share. Record the journal entries for forfeiture and reissue of shares by opening call in arrear, call in advance account.
- L Ltd forfeited Mr M's shares who has applied for 600 shares and was allotted 400 shares failed to pay allotment money of ₹ 4 per share including premium of ₹ 2 on which he had paid application money of ₹ 2 only. Pass necessary journal entries for forfeiture of shares by opening call in arrear, call in advance account.
- Crown Ltd forfeited 50 shares of ₹ 10 each, for non-payment of final call money of ₹ 3 per share. Out of these 20 shares were reissued to Taj at ₹ 8 per share. Record the journal entries for forfeiture and reissue of shares assuming that the company maintains call in arrear, call in advance account.

PART B

OPTION 1

(Analysis of Financial Statements)

23 What will be the effect on current ratio if a bills payable is discharged on maturity? **1**

24 The two basic measures of operational efficiency of a company are **1**

- Inventory Turnover Ratio and Working Capital Turnover Ratio
- Liquid Ratio and Operating Ratio
- Liquid Ratio and Current Ratio

	d) Gross Profit Margin and Net Profit Margin																																									
25	Debt Equity Ratio of a company is 1:2. Purchase of a Fixed asset for ₹ 5,00,000 on long term deferred payment basis will increase, decrease or not change the ratio?	1																																								
26	State the importance of financial analysis for labour unions.	1																																								
27	M/s Mevo and Sons.; a bamboo pens producing company, purchased a machinery for ₹ 9,00,000. It received dividend of ₹ 70,000 on investment in shares. The company also sold an old machine of the book value of ₹ 79,000 at a loss of ₹ 10,000. Compute Cash flow from Investing Activities.	1																																								
28	Common size analysis is also known as _____ analysis. (fill in the blank)	1																																								
29	While preparing Cash Flow Statement, match the following activities I. Payment of cash to acquire Debenture by an Investing Company II. Purchase of Goodwill III. Dividend paid by manufacturing company a. Financing activity b. Investing Activity c. Operating activity	1																																								
30	From the following details calculate Interest Coverage Ratio: Net profit after tax - ₹ 7,00,000 6% debentures of ₹ 20,00,000 Tax Rate 30% Or Under which major heads and sub-heads will the following items be placed in the Balance Sheet of the company as per Schedule III, Part I of the Companies Act, 2013? (i) Debentures with maturity period in current financial year (ii) Securities Premium Reserve (iii) Provident Fund	3																																								
31	Following information is extracted from the Statement of Profit and Loss of Crypto Finance Ltd. For the year ended 31 st March 2017 and 31 st March 2018. Fill in the missing figures Comparative Statement of Profit and Loss for the years ended 31st March 2017 and 31st March 2018	4																																								
	<table border="1"> <thead> <tr> <th>Particulars</th> <th>2016-17 (₹)</th> <th>2017-18 (₹)</th> <th>Absolute Increase/ Decrease (₹)</th> <th>Percentage Increase/ Decrease (%)</th> </tr> </thead> <tbody> <tr> <td>Revenue from Operations</td> <td>10,00,000</td> <td>?</td> <td>2,00,000</td> <td>20%</td> </tr> <tr> <td>Add other Income</td> <td>?</td> <td>60,000</td> <td>?</td> <td>20%</td> </tr> <tr> <td>Total Revenue</td> <td>?</td> <td>12,60,000</td> <td>?</td> <td>20%</td> </tr> <tr> <td>Less Employee Benefit Expenses</td> <td>50,000</td> <td>60,000</td> <td>10,000</td> <td>?</td> </tr> <tr> <td>Profit before tax</td> <td>10,00,000</td> <td>12,00,000</td> <td>2,00,000</td> <td>?</td> </tr> <tr> <td>Less Tax (50%)</td> <td>5,00,000</td> <td>6,00,000</td> <td>1,00,000</td> <td>?</td> </tr> <tr> <td>Profit after tax</td> <td>5,00,000</td> <td>6,00,000</td> <td>1,00,000</td> <td>20%</td> </tr> </tbody> </table>	Particulars	2016-17 (₹)	2017-18 (₹)	Absolute Increase/ Decrease (₹)	Percentage Increase/ Decrease (%)	Revenue from Operations	10,00,000	?	2,00,000	20%	Add other Income	?	60,000	?	20%	Total Revenue	?	12,60,000	?	20%	Less Employee Benefit Expenses	50,000	60,000	10,000	?	Profit before tax	10,00,000	12,00,000	2,00,000	?	Less Tax (50%)	5,00,000	6,00,000	1,00,000	?	Profit after tax	5,00,000	6,00,000	1,00,000	20%	
Particulars	2016-17 (₹)	2017-18 (₹)	Absolute Increase/ Decrease (₹)	Percentage Increase/ Decrease (%)																																						
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Add other Income	?	60,000	?	20%																																						
Total Revenue	?	12,60,000	?	20%																																						
Less Employee Benefit Expenses	50,000	60,000	10,000	?																																						
Profit before tax	10,00,000	12,00,000	2,00,000	?																																						
Less Tax (50%)	5,00,000	6,00,000	1,00,000	?																																						
Profit after tax	5,00,000	6,00,000	1,00,000	20%																																						
	<p style="text-align: center;">Or</p> <p>From the following Balance Sheet of R Ltd., Prepare a Common Size Statement Balance Sheet As at 31st March, 2019.</p> <table border="1"> <thead> <tr> <th>Particulars</th> <th>Note no.</th> <th>31.3.2019 (₹)</th> <th>31.3.2018 (₹)</th> </tr> </thead> </table>	Particulars	Note no.	31.3.2019 (₹)	31.3.2018 (₹)																																					
Particulars	Note no.	31.3.2019 (₹)	31.3.2018 (₹)																																							

I EQUITY AND LIABILITIES			
1. Shareholder's Funds:			
a. Share Capital		5,00,000	4,00,000
b. Reserve and Surplus		1,60,000	1,20,000
2. Current Liabilities:			
a. Trade Payable		1,40,000	80,000
Total		8,00,000	6,00,000
II ASSETS			
1. Non-Current Assets:			
a. Fixed Assets:			
i. Tangible Assets		3,20,000	2,40,000
ii. Intangible Assets		40,000	60,000
2. Current Assets			
a. Inventories		1,60,000	60,000
b. Trade Receivables		2,40,000	2,00,000
c. Cash and Cash Equivalents		40,000	40,000
Total		8,00,000	6,00,000

32 From the following Balance Sheet of Dreams Converge Ltd as at 31.3.2018 and 31.3.2017; Calculate Cash from operating activities. Showing your workings clearly

6

Particulars	Note No.	31.3.2018 (₹)	31.3.2017 (₹)
I. EQUITY AND LIABILITY :			
1. Shareholder's Fund:		7,00,000	5,00,000
a. Share Capital			
b. Reserve and Surplus		3,50,000	2,00,000
2. Non-Current Liabilities:			
Long Term Borrowings		50,000	1,00,000
3. Current Liabilities:			
a. Trade Payables		1,22,000	1,05,000
b. Short term Provisions (Provision for tax)		50,000	30,000
TOTAL		12,72,000	9,35,000
		=====	=====
II. ASSETS :			
1. Non Current Assets:			
a. Fixed Assets:			
i. Tangible Assets	1	5,00,000	5,00,000
ii. Intangible Assets	2	95,000	1,00,000
b. Non-current Investments		1,00,000	Nil
2. Current Assets:			
a. Inventory		1,30,000	55,000
b. Trade Receivable		1,47,000	80,000
c. Cash and Cash Equivalents		3,00,000	2,00,000
TOTAL		12,72,000	9,35,000
		=====	=====

Notes

Note Number	Particulars	31.3.2018 (₹)	31.3.2017 (₹)
1	Tangible Assets:		
	Machinery	2,80,000	2,00,000
	Accumulated depreciation	(1,00,000)	(80,000)
		1,80,000	1,20,000

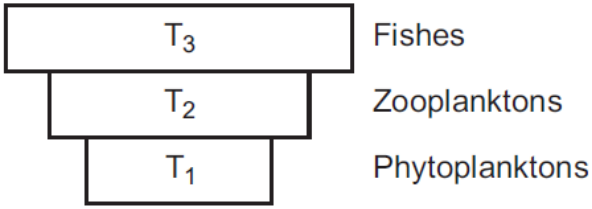
	Equipment	3,20,000	3,80,000	
		5,00,000	5,00,000	
2	Intangible Assets :			
	Goodwill	95,000	1,00,000	
Additional Information:				
i. Machinery of the book value of 80,000 (accumulated depreciation ₹ 20,000) was sold at a loss of ₹ 18,000				
PART B				
OPTION 2				
(Computerised Accounting)				
23	List any two attributes of information to be stored in Payroll data base.			1
24	Which of the following is not an advantage of computerised accounting system a) Efficient record keeping b) Ensures effective control over the system. c) Generation of reports and information in fixed format d) Economy in the processing of accounting data.			1
25	Arrange the following steps of constructing Bank Reconciliation Statements in Tally in chronological sequence a) Bringing up the monthly summary of Bank Book. Bringing the cursor to the first month and pressing enter. b) The display becomes Edit Screen in Reconciliation mode. The primary components are A column for the 'Bankers Date' Amounts not reflected in banks and balance as per banks c) This Brings up the vouchers for the month. Since this is a bank account, an additional button F5: reconcile will be visible on the right Press F5			1
26	Match the following			1
	a)	Single valued attributes	i) Attributes that can be divided in smaller sub parts to represent some more basic attribute with independent meaning	
	b)	Composite attribute	ii) Attributes that cannot be further sub divided in smaller parts.	
	c)	Atomic attributes	iii) Attributes with single value for an entity	
27	What is the activity sequence of the basic information processing mode			1
28	Differentiate between Generic software and Specific Software on basis of cost of installation and maintenance			1
29	Which of the following situations may not require the use of null value a) When a particular attribute does not apply to an entity. b) Value of an attribute is unknown, although it exist; c) Unknown because it does not exist. d) Multi value attributes may be nested (or grouped) to constitute complex ones.			1
30	Explain adjusting entries. Or Explain 'Transparency control' and 'Scalability' as features of Computerized Accounting System.			3
31	Name and explain the function which returns the future value of an investment which has constant payment and interest.			4
32	What is meant by conditional formatting? Give its two uses and three benefits.			6

MARKING SCHEME
SAMPLE QUESTION PAPER
2019-20
CLASS XII (BIOLOGY)

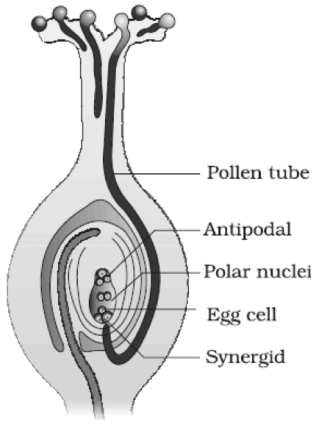
TIME 3 HOURS

MM 70

Section – A		
1.	b) Leydig cells OR b) Amniocentesis	1
2.	d) Cell-mediated immune response OR d) ii and iv	1
3.	d) P enzyme is Restriction endonuclease and Q enzyme is ligase	1
4.	a) Sal I	1
5.	b) Habitat loss and fragmentation	1
Section B		
6.	Encysted <i>Amoeba</i> divides by multiple fission / produces amoeba or pseudopodiospores /cyst wall bursts out/spores are liberated to grow as amoebae(sporulation) <p style="text-align: right;">($\frac{1}{2} \times 4 = 2$ Marks)</p> OR Gemmule- asexual reproductive structure in sponges Conidia- asexual reproductive structure in <i>Penicillium</i> . (or any other correct example) <p style="text-align: right;">($\frac{1}{2} + \frac{1}{2} = 1$ Mark) <p style="text-align: right;">($\frac{1}{2} + \frac{1}{2} = 1$ Mark)</p></p>	2
7.	CuT, Cu7, Multiload 375 Cu ions released suppresses sperm motility and the fertilizing capacity of sperms. <p style="text-align: right;">(Any two) ($\frac{1}{2}$ and $\frac{1}{2} = 1$ Mark) <p style="text-align: right;">($\frac{1}{2} + \frac{1}{2} = 1$ Mark)</p></p>	2
8.	Control crosses cannot be performed in human beings, Alternate method- Pedigree analysis (study of the traits in several generations of a family). <p style="text-align: right;">(1+1=2 Marks)</p>	2
9.	A is more reactive 2'-OH group present in the pentose sugar Makes it more labile/ catalytic and easily degradable. <p style="text-align: right;">$\frac{1}{2}$ Mark $\frac{1}{2}$ Mark $\frac{1}{2} + \frac{1}{2} = 1$ Mark</p>	2
10.	<ul style="list-style-type: none"> • Tissue culture $\frac{1}{2}$ Mark • Meristem apical or axillary is excised. $\frac{1}{2}$ Mark • Explant grown in a test tube under sterile condition/special nutrient medium <p style="text-align: right;">$\frac{1}{2} + \frac{1}{2} = 1$ Mark</p>	2

11.	<ul style="list-style-type: none"> • RNA interference ½ Mark • silencing of a specific mRNA due to a complementary RNA ½ Mark • dsRNA/Introduction of DNA was such that it produced both sense/ and anti-sense RNA in the host cells/these two RNAs formed dsRNA that initiated RNAi 1 Mark 	2
12.	 <p style="text-align: center;">Pyramid of biomass</p> <p>The pyramid is inverted because the biomass of fishes is much more than that of the zooplankton and phytoplankton. 1+1= 2 Marks</p>	2

Section C

13.	 <p style="text-align: right;">(Diagram =1 Mark) (Any four labellings ½ x 4=2)</p>	3
14.	<p>Failure of segregation of chromatids during cell division cycle results in the gain or loss of a chromosome(s) (aneuploidy) (1 Mark)</p> <p>Autosomes:-</p> <p>Down's Syndrome: The cause is the presence of an additional copy of the chromosome number 21 (trisomy of 21). (½ Mark)</p> <p>The affected individual is</p> <ul style="list-style-type: none"> • short statured with small round head, • furrowed tongue and partially open mouth • Palm is broad with characteristic palm crease. • Physical, psychomotor and mental development is retarded. <p style="text-align: right;">(Any one symptom ½ Mark)</p> <p>Sex chromosomes:-</p> <p>Klinefelter's Syndrome : This is caused due to the presence of an additional copy of X-chromosome resulting into a karyotype of 47, XXY. ½ Mark</p>	3

	<p>Such an individual has overall masculine development</p> <ul style="list-style-type: none"> • has overall masculine development • feminine development is also expressed by the development of breast/ Gynaecomastia). Such individuals are sterile. <p style="text-align: right;">(Any one symptom ½ Mark)</p> <p><i>If students give the example of Turner's Syndrome, it should be considered and marks given.</i></p> <p style="text-align: center;">OR</p> <p>a) i. point mutation/ single base substitution ½ Mark ii. point mutation/ single base deletion ½ Mark b) i 4 aminoacids 1 Mark ii 4 aminoacids 1 Mark</p>													
15.	<p>In some species, the diploid egg cell is formed without reduction division and develops into the embryo without fertilization. 1 Mark</p> <p>In many <i>Citrus</i> and <i>Mango</i> varieties some of the nucellar cells surrounding the embryo sac start dividing, protrudes into the embryo sac and develops into the embryos. In such species each ovule contains many embryos. 2 Mark</p>	3												
16.	<p>a.) Chemical evolution – First form of life originated from pre-existing non-living organic molecules.</p> <p>b.) Amino acids</p> <p>c.) H₂ 1x3 =3 Mark</p>	3												
17.	<p>a.)</p> <table border="1"> <thead> <tr> <th>Amino acid</th> <th>Phe</th> <th>Val</th> </tr> </thead> <tbody> <tr> <td>DNA Code in Gene</td> <td>AAA</td> <td>CAC</td> </tr> <tr> <td>Codon in mRNA</td> <td>i)UUU</td> <td>ii)GUG</td> </tr> <tr> <td>Anticodon in tRNA</td> <td>iii)AAA</td> <td>iv)CAC</td> </tr> </tbody> </table> <p style="text-align: right;">1Mark</p> <p>b.)</p> <p>i) A polypeptide containing 14 different amino acid = 14x3=42 base pairs. 1Mark</p> <p>ii) 14 different types of RNA are needed for the synthesis of polypeptide. 1Mark</p>	Amino acid	Phe	Val	DNA Code in Gene	AAA	CAC	Codon in mRNA	i)UUU	ii)GUG	Anticodon in tRNA	iii)AAA	iv)CAC	3
Amino acid	Phe	Val												
DNA Code in Gene	AAA	CAC												
Codon in mRNA	i)UUU	ii)GUG												
Anticodon in tRNA	iii)AAA	iv)CAC												
18.	<p>Advantages:-Inbreeding is necessary if we want to evolve a pure line in any animal.</p> <ul style="list-style-type: none"> • It helps in accumulation of superior genes and elimination of less desirable genes • Inbreeding exposes harmful recessive genes that are to be eliminated by selection. • Where there is selection at each step, it increases the productivity of inbred population. <p style="text-align: right;">(Any two 1 Mark each)</p> <p>Disadvantages:-</p> <ul style="list-style-type: none"> • reduces fertility • decreases productivity. <p style="text-align: right;">(Any two ½ x2=1 Mark)</p>	3												
19.	<p>Specific Bt toxin genes isolated from <i>Bacillus thuringiensis</i> is incorporated into cotton is coded by the genes <i>cryIAc</i> and <i>cryIIAb</i> that control the cotton bollworms (½ + ½ = 1 Mark)</p> <ul style="list-style-type: none"> • <i>Bacillus</i> forms protein crystals that contain a toxic insecticidal protein. • once an insect ingest the inactive toxin, it is converted into an active form • The toxin in the form of crystals gets solubilised due to alkaline pH in the gut • The activated toxin binds to the surface of gut epithelial cells and perforate the walls causing the death of insect larva (½ x2=2 Marks) 	3												

20.	<p>criteria for determining biodiversity hot spots are: –</p> <ul style="list-style-type: none"> • high levels of species richness (1 Mark) • High degree of endemism. (1 Mark) <p>hotspots In India - Western Ghats, Himalaya (Indo-Burma/Sunderland to be accepted) (Any 2) ($\frac{1}{2} + \frac{1}{2} = 1$Mark)</p> <p style="text-align: center;">OR</p> <p>In-situ Conservation– Threatened /endangered plants and animals are provided with urgent measures to save from extinction within their natural habitat and they are protected and allowed to grow naturally. Example- wildlife sanctuaries/ national parks /biosphere reserves/ sacred groves (Any one example) ($\frac{1}{2}$ Mark, 1 Mark for difference)</p> <p>Ex-situ Conservation –Threatened animals and plants are taken out from their natural habitat and placed in a setting where they can be protected and given care Example- in botanical gardens/ zoological gardens/ seed/pollen/gene banks (Any one example) ($\frac{1}{2}$ Mark, 1 Mark for difference)</p>	3
21.	<p>(a) To maintain the cells in their physiologically most active log/exponential phase. 1 Mark</p> <p>(b) Temperature, pH, substrate, salts, vitamins, oxygen (Any 4) ($\frac{1}{2} \times 4 = 2$ Mark)</p>	3
Section D		
22.	<p>a.) Each primary spermatocyte will undergo meiosis-I and meiosis-2 which will result in 4 spermatozoa $300 \text{ million} / 4 = 75 \text{ million}$ 1 Mark</p> <p>b) Since replication has occurred by this stage $46 \times 2 = 92$ chromatids 1 Mark Meiosis –I is completed by this time $92 / 2 = 46$ chromatids - 1 Mark</p>	3
23.	<p>a) Vigorous growth of useful aerobic microbes into flocs. 1 Mark</p> <p>b) Activated sludge – some of it is pumped back into the aeration tank to serve as the inoculum $\frac{1}{2} + \frac{1}{2}$ Mark</p> <p>c) During this digestion, a mixture of gases such as methane, hydrogen sulphide is made and carbon dioxide. These gases form biogas. 1 Mark</p>	3
24.	<p>Platinum-palladium Rhodium (Any two $\frac{1}{2} + \frac{1}{2} = 1$Mark)</p> <p>CO₂, H₂O and CO [any 2] $\frac{1}{2} + \frac{1}{2} = 1$ Mark</p> <p>Nitric oxide 1 Mark</p>	3
Section E		
25.	<p>Polygenic inheritance 1 Mark</p> <ul style="list-style-type: none"> • If we assume <u>skin colour</u> is controlled by three genes A, B, C • Dominant forms (A,B,C) are responsible for dark skin colour and recessive form (a, b, c) for light skin colour 1 Mark • The genotype with all dominant alleles (AABBCC) will be darkest skin colour and with recessive alleles will be light test skin colour (aabbcc) (1+1=2 Marks) 	5

	<ul style="list-style-type: none"> The genotypes (AaBbCc) will be of intermediate skin colour i.e. with three dominant alleles and three recessive alleles 1 Mark <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> The sequences were arranged based on some overlapping regions present in them (Alignment of these sequences was not humanly possible) 1Mark Therefore, specialized computer based programme was developed. 1Mark These sequences were subsequently annotated and were assigned to each chromosome-1Mark Chromosome 1 1Mark <i>Caenorhabditis elegans</i> 1Mark 	
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26.	<p>a) Inducing mutation artificially using chemicals /radiations /and selecting plants with desirable characters $\frac{1}{2} \times 2 = 1\text{Mark}$</p> <p>Mung Bean 1Mark</p> <p>Yellow mosaic virus 1Mark</p>	5				
OR						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">b) AQUACULTURE</td> <td style="width: 50%; text-align: center;">PISCICULTURE</td> </tr> <tr> <td>1. It involves production and culturing of all types of aquatic organisms in water bodies.</td> <td>Production and culturing of fishes is called pisciculture. 1x2= 2 Mark</td> </tr> </table>			b) AQUACULTURE	PISCICULTURE	1. It involves production and culturing of all types of aquatic organisms in water bodies.	Production and culturing of fishes is called pisciculture. 1x2= 2 Mark
b) AQUACULTURE	PISCICULTURE					
1. It involves production and culturing of all types of aquatic organisms in water bodies.	Production and culturing of fishes is called pisciculture. 1x2= 2 Mark					
OR						
<p>a) AIDS caused by the Human Immuno deficiency Virus ($\frac{1}{2} + \frac{1}{2} = 1$ Mark)</p> <p>b) Vaccines prevent microbial infections by initiating production of antibodies against these antigens to neutralise the pathogenic agents during later actual infection. (1/2)</p> <p>The vaccines also generate memory – B and T-cells that recognize the pathogen quickly on subsequent exposure. (1/2) 1 Mark</p> <p>c) Normal cells show a property called contact inhibition by virtue of which contact with other cells inhibits their uncontrolled growth. Cancer cells appear to have lost this property.(1)</p> <p>These cells grow very rapidly, invading and damaging the surrounding normal tissues. Cells sloughed from such tumors reach distant sites through blood, and wherever they get lodged in the body, they start a new tumor there. This property called metastasis. (1) 2 Marks</p> <p>d) Physiological barriers : Acid in the stomach and saliva in the mouth. $\frac{1}{2}$ Mark</p>						

27.	<p>A pie chart illustrating the relative contribution of four greenhouse gases. The largest slice is pink, representing Carbon dioxide at 60%. The next largest is green, representing Methane at 20%. A light blue slice represents CFCs at 14%, and a small dark grey slice represents N₂O at 6%.</p>	5
<p>(Marks to be given only if relative contribution is correct) ($\frac{1}{2} \times 4 = 2$ Marks)</p>		

Pie chart - $\frac{1}{2}$ Marks to be detected if not given in form of pie chart

Clouds and gases reflect one-fourth of incoming solar radiation/absorb some of it/but almost half of incoming solar radiation falls on Earth's surface heating it/while a small is reflected back/Earth's surface re-emits heat in the form of infra red radiation/but part of this does not escape into space as atmospheric gases absorb a major fraction of it.

($\frac{1}{2}$ x 6 points = 3 Marks)

OR

(a) – Amensalism

(1 Mark)

(b) – Predation

(1 Mark)

Justifications-

- Nature's way of transferring energy fixed by plants to higher trophic levels/conduits for energy transfer.
- Keep prey population under control
- Predators help in maintaining species diversity in a community, by reducing the intensity of competition among competing prey species.

(1x3 Points = 3 Marks)

Sample Question Paper
Class XII (2019-20)
Biology (044)

Time allowed: 3 hrs.

Maximum Marks: 70

General Instructions:

1. There are a total of 27 questions and five sections in the question paper. All questions are compulsory.
2. Section A contains question numbers 1 to 5, multiple choice questions of one mark each.
Section B contains question numbers 6 to 12, short answer type I questions of two marks each.
Section C contains question numbers 13 to 21, short answer type II questions of three marks each.
Section D contains question number 22 to 24, case-based short answer type questions of three marks each.
Section E contains question numbers 25 to 27, long answer type questions of five marks each.
3. There is no overall choice in the question paper. However, internal choices are provided in two questions of one mark, one question of two marks, two questions of three marks and all three questions of five marks. An examinee is to attempt any one of the questions out of the two given in the question paper with the same question number.

SECTION – A

1. Androgens are synthesized by: 1
 - a.) Sertoli Cells
 - b.) Leydig cells
 - c.) Seminal vesicles
 - d.) Bulbourethral gland

OR

A procedure that finds use in testing for genetic disorders, but is also misused for female foeticide is:

- a.) Lactational amenorrhea
 - b.) Amniocentesis
 - c.) Artificial insemination
 - d.) Parturition
-
2. Which type of immune response is responsible for the rejection of tissues/organs in the patient's body post transplantation? 1
 - a.) auto-immune response
 - b.) humoral immune response
 - c.) physiological immune response
 - d.) cell-mediated immune response

OR

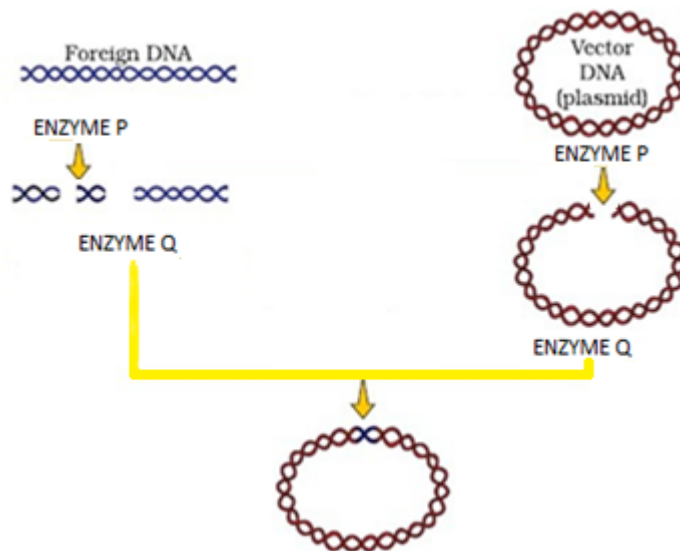
Rheumatoid arthritis is caused when . . .

- i.) Lymphocytes become more active
- ii.) Body attacks self cells
- iii.) More antibodies are produced in the body
- iv.) The ability to differentiate pathogens or foreign molecules from self-cells is lost

Choose the correct answer from the options given below:

- a.) i and ii
- b.) iii and iv
- c.) i and iii
- d.) ii and iv

3. Name the enzymes 'P' and 'Q' that are involved in the processes given below. 1



- a.) Enzyme P-Exonuclease and Enzyme Q-Permease
- b.) Enzyme P-Exonuclease and Enzyme Q- Ligase
- c.) Enzyme P-Endonuclease and Enzyme Q- Permease
- d.) Enzyme P-Restriction endonuclease and Enzyme Q-Ligase

4. A biotechnologist wanted to create a colony of *E.coli* possessing the plasmid pBR322, sensitive to Tetracycline. Which one of the following restriction sites would he use to ligate a foreign DNA? 1

- a.) Sal I
- b.) Pvu I
- c.) EcoRI
- d.) Hind III

5. The most important cause of biodiversity loss is: 1

- a.) Over exploitation of economic species
- b.) Habitat loss and fragmentation
- c.) Invasive species
- d.) Breakdown of plant-pollinator relationships

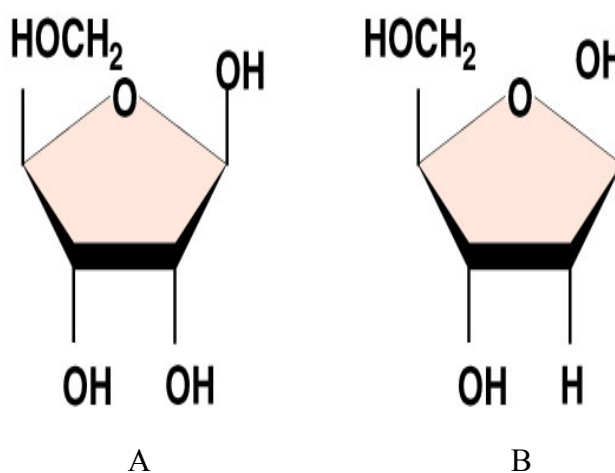
SECTION B

6. How does an encysted *Amoeba* reproduce on return of favourable conditions? 2

OR

What are gemmules and conidia? Name one organism each in which these are formed?

7. Name any two copper releasing IUD's. State how they act as a contraceptive. 2
8. Why is it not possible to study the pattern of inheritance of traits in human beings, the same way as it is done in pea plant? Name the alternate method employed for such an analysis of human traits. 2
9. Carefully examine structures A and B of pentose sugar given below. Which one of the two is more reactive? Give reasons. 2



10. Name the technology and write the procedure that can help a scientist to recover virus free sugarcane plants from diseased canes for his crop breeding experiments. 2
11. Explain the events that occur in the host cell on introduction of nematode-resistant gene into the tobacco plant by using *Agrobacterium* vectors. 2
12. Construct a pyramid of biomass starting with phytoplankton. Label its three trophic levels. Is the pyramid upright or inverted? Justify your answer. 2

SECTION C

13. Draw a well-labelled diagram of L.S of a pistil of a flower showing the passage of growing of pollen tube up to its destination. 3
14. How does gain or loss of chromosome(s) takes place in humans? Describe one example each of chromosomal disorder along with the symptoms involving an autosome and a sex chromosome. 3

OR

A small stretch of DNA strand that codes for a polypeptide is shown below:

3'--- --- --- --- CAT CAT AGA TGA AAC--- --- --- --- 5'

a.) Which type of mutation could have occurred in each type resulting in the following mistakes during replication of the above original sequence?

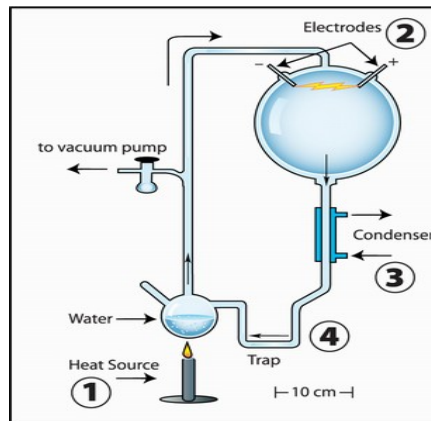
i. 3`.....CAT CAT AGA TGA ATC.....5`

ii. 3`.....CAT ATA GAT GAA AC.....5`

b.) How many amino acids will be translated from each of the above strands i) and ii)?

15. “Apomixes is a form of asexual reproduction that mimics sexual reproduction in plants”. Explain with the help of a suitable example. 3

16. 3



a.) State the hypothesis which S.L. Miller tried to prove in the laboratory with the help of the set up given above.

b.) Name the organic compound observed by him in the liquid water at the end of his experiment.

c.) A scientist simulated a similar set up and added CH₄, NH₃ and water vapour at 800°C. Mention the important component that is missing in his experiment?

17. a.) Study the table given below and identify (i), (ii), (iii) and (iv) 3

Amino acid	Phe	Val
DNA Code in Gene	AAA	CAC
Codon in mRNA	(i)	(ii)
Anticodon in tRNA	(iii)	(iv)

b.) A polypeptide consists of 14 different amino acids.

i) How many base pairs must be there in the processed mRNA that codes for this polypeptide?

ii) How many different types of tRNA are needed for the synthesis of this polypeptide?

18. How is inbreeding advantageous as well as disadvantageous in cattle breeding programme? (Mention any **two** advantages and **two** disadvantages) 3

19. “Specific Bt Toxin gene is incorporated into cotton plant so as to control infestation of Bollworm”. Mention the organism from which the gene was isolated and explain its mode of action. 3

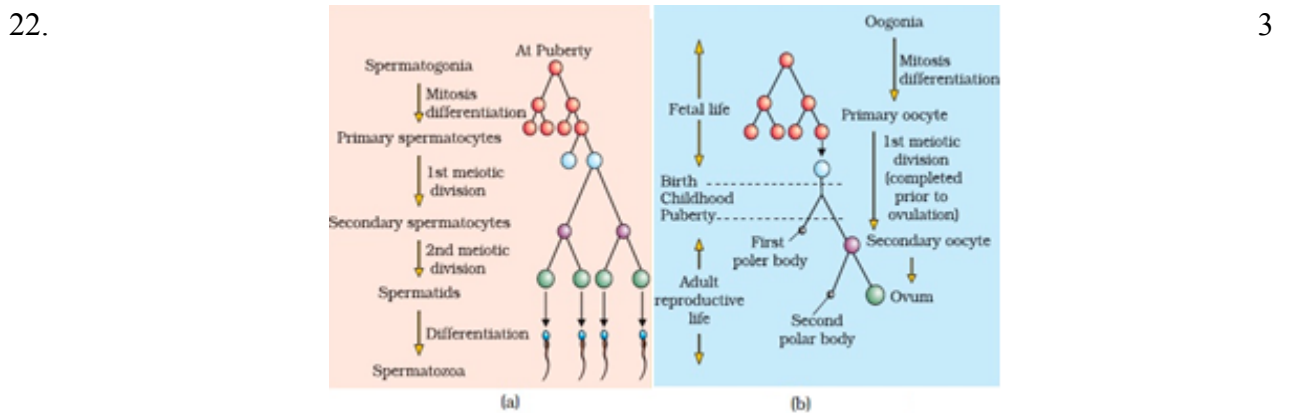
20. State any two criteria for determining biodiversity hotspots. Name any two hotspots designated in India. 3

OR

Differentiate between in-situ and ex-situ approaches for conserving biodiversity. Give an example for each.

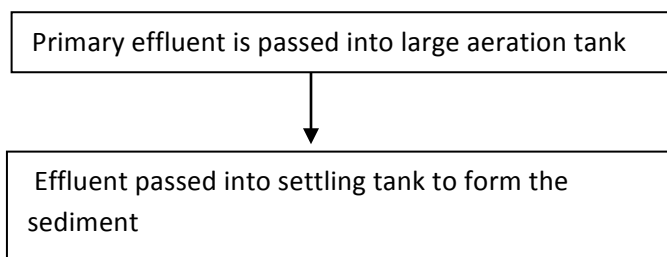
21. When the gene product is required in large amounts, the transformed bacteria with the plasmid inside the bacteria are cultured on a large scale in an industrial fermenter which then synthesizes the desired protein. This product is extracted from the fermenter for commercial use. 3
- a.) Why is the used medium drained out from one side while fresh medium is added from the other? Explain.
- b.) List any four optimum conditions for achieving the desired product in a bioreactor.

SECTION D



With reference to the above schematic representation of (a) Spermatogenesis and (b) Oogenesis answer the following questions:

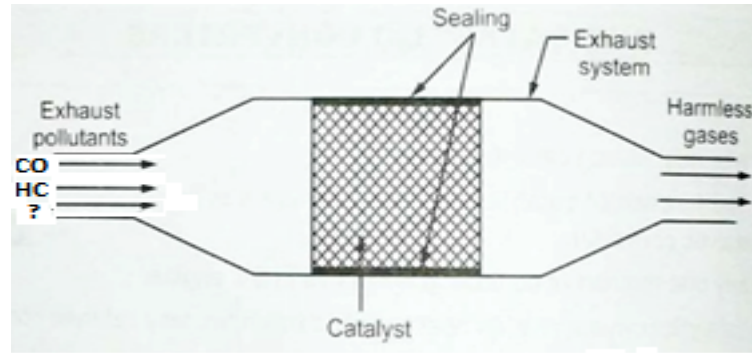
- a.) About 300 million spermatozoa may be present in a human male ejaculation at one time. Calculate how many spermatocytes will be involved to produce 300 spermatozoa.
- b.) How many chromatids are found during Oogenesis in (i) Primary oocyte and (ii) First polar body in a human female?
23. Large quantities of sewage is generated everyday in cities and towns, which is treated in Sewage Treatment Plants (STPs) to make it less polluted. Given below is the flow diagram of one of the stages of STP. 3
- Observe the given flow diagram and answer the questions accordingly.



- a.) Why primary effluent is passed into large aeration tanks?
- b.) Write the technical term used for the sediment formed? Mention its significance.

- c.) Explain the final step that results in the formation of biogas in the large tank before the treated effluent is released into water bodies.

24.



3

Observe the diagram of the catalytic converter and answer the questions which follow:

- Name any two metals used as catalyst in the catalytic converter.
- Name the gases that are released after passing the exhaust hydrocarbons through the catalytic converter.
- Name the other poisonous gas which is missing (?) in the exhaust pollutant of an automobile in the above diagram?

SECTION E

25. Certain phenotypes in human population are spread over a gradient and reflect the contribution of more than two genes. Mention the term used for the type of inheritance? Describe it with the help of an example in human population.

5

OR

Summarize the process by which the sequence of DNA bases in Human Genome Project was determined using the method developed by Frederick Sanger. Name a free living non-pathogenic nematode whose DNA has been completely sequenced.

26. a.) What is mutation breeding? Give an example of a crop and disease to which resistance was induced by this method.
- b.) Differentiate between pisci-culture and aquaculture.

5

OR

- If a patient is advised anti-retroviral drug, name the possible infection he/ she is likely to be suffering from. Name the causative organism.
- How do vaccines prevent subsequent microbial infection by the same pathogen?
- How does a cancerous cell differ from a normal cell?
- Many microbial pathogens enter the gut of humans along with food. Name the physiological barrier that protects the body from such pathogens.

27. "Indiscriminate human activities have strengthened the greenhouse effect resulting in Global Warming." Give the relative contribution of various Green House Gases in the form of a pie chart and explain the fate of the energy of sunlight reaching the earth's surface contributing towards Global Warming.

5

OR

Given below is a table depicting population interactions between species A and species B.

Type of interaction	Species A	Species B
(a)	(-)	(+)
(b)	(+)	(-)

Name the types of interactions (a) and (b) in the above table.

Justify giving three reason, how the type of interaction (b) is important in an ecological context.

XXXXXXXXXX

Sample Question paper
CLASS- XII
BIO-TECHNOLOGY
2019-20

MARKING SCHEME

SECTION A		
1	Paul Berg, Herbert Boyer, Annie Chang and Stanley Cohen. <i>(Any two)</i>	$\frac{1}{2}$ *2
2	Properties for thermal and pH stability/ solvent tolerance and solubility/ catalytic potency etc. <i>(Any two)</i>	$\frac{1}{2}$ *2
3	By the production of stress-related osmolytes like sugars (e.g. trihalose and fructans)/ sugar alcohols (e.g. mannitol) / amino acids (e.g. proline), glycine betaine/ certain proteins (e.g. antifreeze proteins). <i>(Any one)</i>	1
4	Simian Virus 40 OR Methylation	1
5.	To make series of maps of each human chromosome at increasingly finer resolutions.	1
6.	Serum/FCS, an essential component of animal cell culture media was missing. OR Trophoblast	1
7	Amino acids were not replaced at random but were altered with specific preferences./ Some amino acids such as tryptophan, was generally not replaced by any other amino acid / Based on several homologous sequences, a point accepted mutation (PAM) matrix could be developed. <i>(Any one)</i> OR Functionally related or homologous protein sequences are similar.	1
8	b) NMR	1
9	b) 5.7	1
10	d) Y and N	1

11	a) SCID	1
12	(i) d) $> 10^6$ cells /ml	1
	(ii) d) Acclimatization to the new environment.	1
	(iii) a) Log phase	1
	(iv) d) Antibiotics don't have any affect on animal cells	1
SECTION B		
13	Synthetic media - Full composition of the medium is known. Semi-synthetic media - These media contain highly complex components such as peptone, beef extract, yeast extract or casein digest. Nutrient broth/ Typticase soya broth (TSB) / Brain heart infusion (BHI) broth	1 1
14	<i>LEU2</i> gene codes for an enzyme required for the synthesis of amino acid leucine. Yeast cells having this plasmid can grow on a medium lacking leucine and hence can be selected. e.g. Yep	1 $\frac{1}{2}$ $\frac{1}{2}$
15	No simple correlation between the intuitive complexity of an organism and the number of genes in its genome. Relatively small number of genes in a human genome in comparison to worm <i>Drosophila melanogaster</i> .	1 1
16	While somaclones are plant variants obtained from tissue cultures of somatic tissues, gametoclones are plant variants with gametophytic origin obtained from tissue such as pollen or egg cell. Larkin and Scowcroft (1981) proposed the term 'somaclones'	1 1
17	A balance between the stabilizing (mainly hydrophobic) interactions and destabilization interactions. By substituting amino acids that either favour stabilizing interactions in a folded protein or destabilizing interactions in an inactive protein.	1 1
18	Potential of genetically modified organisms (GMO) or recombinant strains to infect other organisms./Toxicity and allergy associated with the use of recombinant molecules./ Increasing the environmental pool of antibiotic resistant microorganisms or transfer of antibiotic resistant genes./Problems associated with the disposal of spent microbial biomass./Safety aspects associated with contamination, infection or mutation of process strains.	1*2

	(Any two)	
	OR	
	<ul style="list-style-type: none"> • Bulk purchase of chemicals and other raw materials would bring down costs. • The labour cost decreases sharply with increase in production. 	
19	<p>Negatively charged Asp 102 partially borrow hydrogen ion from His-57. His-57 attracts hydrogen ion from adjacent Ser 195 Serine 195 gets negative charge. Serine 195 makes a nucleophilic attack on the protein substrate.</p> <p style="text-align: center;">OR</p> <p>Normal and thalassaemic erythrocytes obtained and their lysates analysed Protein fingerprinting/ 2-D gel electrophoresis/ MALDI/ SDS-PAGE can identify if alpha or beta chain is absent</p> <p>Protein fingerprinting:</p> <ul style="list-style-type: none"> • Trypsin digestion of Purified haemoglobin • Paper electrophoresis followed by paper chromatography. • Spray with ninhydrin. <p>(Student should be awarded marks if he/she describes any of the above mentioned technique.)</p>	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2*3</p>
SECTION C		
20	<p>(a) Insulin production is 100 mg/L; so fermentor volume needed for 1 Kg of insulin is 1 Kg /100mg = 1000, 000mg/100,g = 10,000mg = 10,000L.</p> <p>(b) Cell concentration is increased 50 times, we need 200 L reactor.</p> <p>(c) Insulin yield per litre of culture is 500 X 50 = 25, 000 mg / L which is 25 gram/L. We need a 40 L reactor (1000g/25g) .</p>	<p>1</p> <p>1</p> <p>1</p>
21	<p>The diagram illustrates the process of creating a recombinant plasmid. It starts with a linear foreign DNA fragment (red and green) and a circular plasmid vector (blue and green). Both are digested with the restriction enzyme EcoRI, creating sticky ends. The DNA fragments are then treated with alkaline phosphatase to remove 5' phosphates. Finally, the foreign DNA is ligated into the plasmid vector using DNA ligase to form a recombinant vector plasmid.</p>	3

		OR															
	<i>Haemophilus Aegyptus</i>	<i>HaeIII</i>	5'G-G-C-C 3' 3'C-C-G-G 5'	1													
	<i>Providencia stuartii</i>	<i>PstI</i>	5'C-T-G-C-A-G 3' 3'G-A-C-G-T-C 5'	1													
	<i>Streptomyces albus</i>	<i>SaII</i>	5'G-T-C-G-A-C 3' 3'C-A-G-C-T-G 5'	1													
22	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Functional Property</th> <th style="width: 50%;">Mode of action</th> </tr> </thead> <tbody> <tr> <td>Whipping/Foaming</td> <td>Forms stable film (A)</td> </tr> <tr> <td>Emulsification (B)</td> <td>Formation and stabilization of fat emulsions</td> </tr> <tr> <td>Gelation(C)</td> <td>Protein matrix formation and setting</td> </tr> <tr> <td>Viscosity</td> <td>Thickening, water binding(D)</td> </tr> <tr> <td>Water binding(E)</td> <td>Hydrogen bonding of water; entrapment of water</td> </tr> <tr> <td>Solubility</td> <td>Protein salvation(F)</td> </tr> </tbody> </table>		Functional Property	Mode of action	Whipping/Foaming	Forms stable film (A)	Emulsification (B)	Formation and stabilization of fat emulsions	Gelation(C)	Protein matrix formation and setting	Viscosity	Thickening, water binding(D)	Water binding(E)	Hydrogen bonding of water; entrapment of water	Solubility	Protein salvation(F)	3
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23	<p>Replica plating.</p> <ul style="list-style-type: none"> • Host cells are first plated (master plate) on solid media with the desired antibiotic overnight. • Velvet paper is aligned, pressed on master plate. • With the same alignment it is pressed onto the replica plate. • Keep it overnight ,transformed colonies will not grow in replica plate • The colonies having insert can easily be scored off from master plate by comparing the two plates. 		<p>$\frac{1}{2}$</p> <p>$\frac{1}{2} * 5$</p>														
24	<ul style="list-style-type: none"> • Production of healthy oils with altered fatty acid profiles. • Modification of starch properties for specific uses. • Favourable change of grain storage products and their chemical composition to improve the processing of bread making with wheat flour, malting of barley and brewing of beer. • Removal of undesirable toxic compounds in certain plants. • Development of blue roses/ blue coloured cotton which is otherwise not possible by conventional plant breeding because of the absence of blue pigment in roses/ cotton • Development of tear-less onions, caffeine-free coffee and low nicotine tobacco. <p style="text-align: right;"><i>(Any three)</i></p>		$\frac{1}{2} * 6$														
25	The collective DNA(from various environmental niche) is subjected to restriction digestion using restriction endonucleases and the fragments are		1														

cloned into suitable vectors.
 The clones are then screened for presence of a variety of molecules.
 The clones expressing novel molecules or molecules with improved characteristics are used for large-scale production by fermentation techniques.

1

1

OR

Pilot plant: Mini version of the commercial plant.

1

Direct production of microbes on a large or commercial scale has the risk of not only large investments, but also producing products, which may not be of appropriate quality so that there are problems in their commercialization.

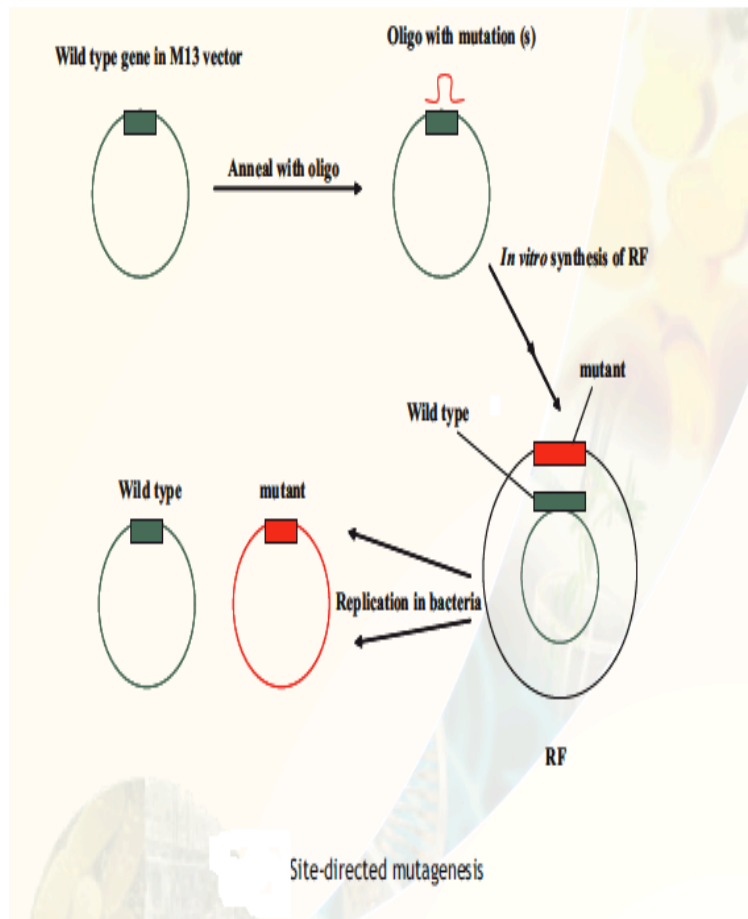
2

26

Crop	Gene	Improved character
Canola	(A) Thioesterase EPSP <i>synthase/ Any relevant gene</i>	Hybrid production
Corn	(B) Bt cry I Ac /any other	Insect resistance
Cotton	(C) Acetolactate synthase Nitrilase EPSP synthase Bt CryIA(c)	Insect resistance
Papaya	(D) Coat protein/ Any relevant gene	Virus resistance
Potato	(E) Bt CryIIIA and coat protein/ Any relevant gene	Insect and Virus control
Soyabean	(F) EPSP synthase/ Any relevant gene	Weed control

½ * 6

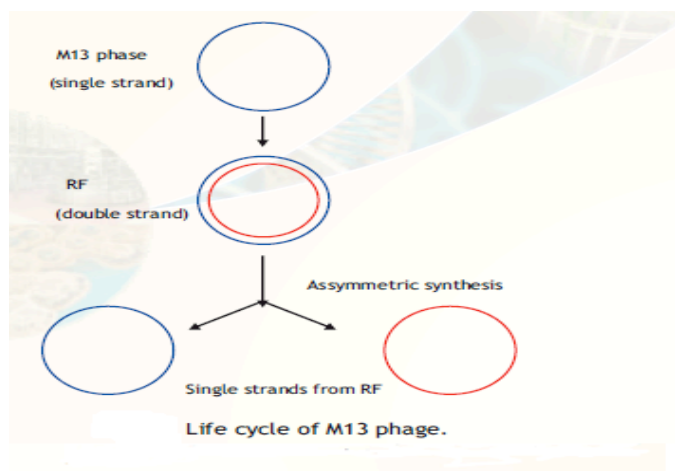
SECTION D



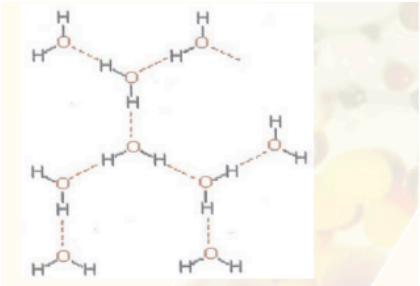
OR

Foreign DNA can be inserted into bacteriophage single stranded, circular DNA of 6407 bp without disrupting any of the essential genes.

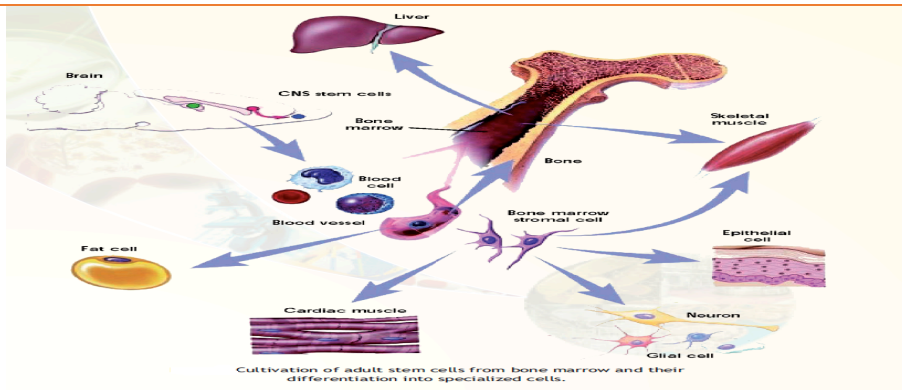
1



1

	<p>Its genome is less than 10 kb in size.</p> <p>RF can be purified and manipulated exactly like a plasmid.</p> <p>Genes cloned into M13 based vectors can be obtained in the form of single stranded DNA.</p>	<p>1</p> <p>1</p> <p>1</p>
28	<p>Ionic bonds:</p> <p>Interactions between the oppositely charged groups also known as salt bridges</p> <p>Hydrogen bonds:</p> <p>Hydrogen bonds are formed by "sharing" of a hydrogen atom between two electronegative atoms such as Nitrogen and Oxygen.</p>  <p>Hydrogen Bonding</p> <p>Van der Waals forces:</p> <p>The Van der Waals types of forces are essentially contact forces, proportional to the surface areas in contact.</p> <p>Hydrophobic interactions:</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>

	The hydrophobic interaction is a manifestation of hydrogen bonding network in water. In water, each molecule is potentially bonded to four other molecules through H-bonds	
29	Directed sequencing of Bacterial Artificial Chromosome (BAC) contigs	½
	Bacterial Artificial Chromosome (BAC) vectors are used to make genomic libraries in which the insert size is 80-100 kb, library is then screened by finding common restriction fragments.	1
	BAC clones are then mapped to find overlapping arrays of contiguous clones called contigs. The mapped contigs are sequenced by breaking large DNA fragments into small pieces.	1
	Random shotgun sequencing In random shotgun sequencing, big genomic DNA molecules are cloned in small (2.0 kb) and medium (10 kb) plasmid vectors and a library is constructed	½ 1
	Picking many clones, sequencing them and feeding all these data into a computer program, these sequences are joined by finding overlapping parts. The result is, we get long pieces of DNA sequences.	1
	OR	
	Cystic Fibrosis (Cystic Fibrosis Trans membrane Conductance Regulator CFTR gene)	½
	1. Inheritance: autosomal recessive disease 2. Genomic location: Chromosome 7 (7q31.2) 3. Mutation: The most common mutation is a deletion of 3 bps resulting in the loss of codon no. 508, which codes for phenylalanine	½*3
	Huntington disease (Hunting tin gene HTT)	½
	1. Inheritance: autosomal dominant 2. Location: Chromosome 4 (4p16.3) 3. Mutation: increased number of CAG repeats more than 35 times	½*3
	Two diseases showing gene polymorphism with complex inheritance Common late-onset Alzheimer's disease Migraine	½ ½
30	Cultivation of adult stem cells from bone marrow and their differentiation into specialized cells	
		3



1

1/2*2

Ernest McCulloch and James Till

Leukemia (Cancerous blood cells), Heart disease, heart attack (cardiac tissue damage). Paralysis (spinal cord injury). Alzheimer's, Parkinson's, Huntington's (dead brain cells).and Burns (damaged skin cells) (Any two)

Sample Question paper
CLASS- XII
BIO-TECHNOLOGY (045)
SESSION 2019-20

Time allowed: 3 hours

Maximum Marks: 70

General Instructions:

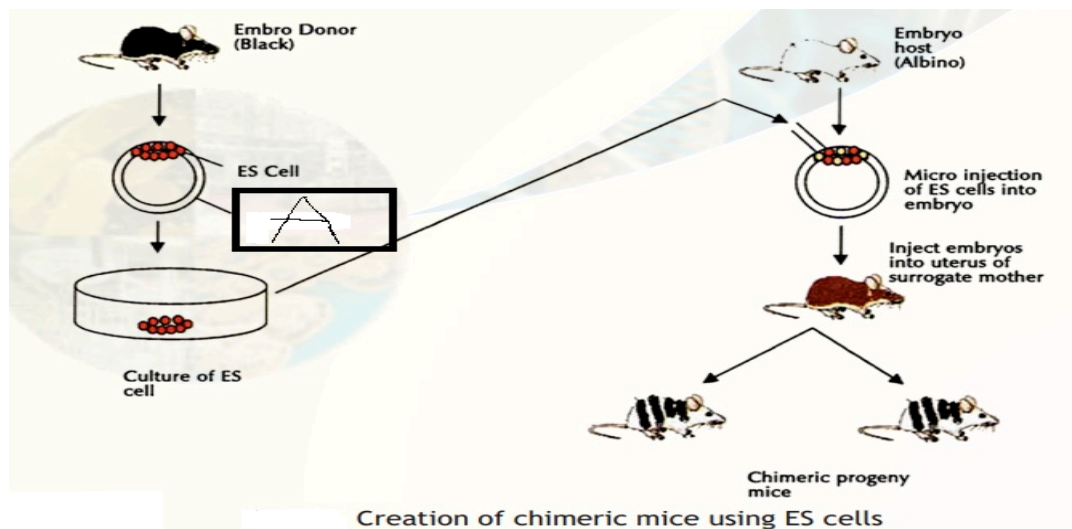
- (i) *The question paper comprises four Sections – A, B, C and D. Attempt all the Sections.*
- (ii) *All questions are compulsory.*
- (iii) *There is no overall choice. However, an internal choice has been provided in five questions of one mark, three questions of **two** marks, three questions of **three** marks and **three** questions of **five** marks. You have to attempt only one of the choices in such questions. Questions paper contains four sections A, B, C and D.*
- (iv) *Question numbers 1 to 7 are very short answer questions carrying 1 mark each. Question numbers 8 to 12 are multiple choice questions carrying 1 mark each*
- (v) *Question numbers 13 to 19 are short answer questions, carrying 2 marks each.*
- (vi) *Question numbers 20 to 26 are also short answer questions, carrying 3 marks each.*
- (vii) *Question numbers 27 to 30 are long answer questions, carrying 5 marks each.*
- (viii) *Use of calculators is not permitted. However, you may use log tables, if necessary.*

SECTION A

- 1 Name any two scientists involved in designing the first recombinant DNA molecule. 1
 - 2 Write any two properties which can be improved through protein engineering 1
 - 3 Transgenic plants have been developed to survive in saline habitat. Which technique might have been used to develop such plants? 1
 - 4 Which vector was used in the first cloning experiment involving mammalian cell? 1
- OR**
- How does a modification enzyme protect its own DNA from digestion?
- 5 What was the strategy behind *Human Genome Project*? 1
 6. An enriched medium containing salts, glucose, proteins and vitamins was made and a commercially available animal cell line was introduced. However, the cells began dying. What could be the reason behind it? 1

OR

What is A in the flow chart?



7. Margaret Dayhoff observed that protein sequences undergo variation according to certain patterns. Write any one such pattern. 1

OR

What is the underlying principle of “Molecular evolution”?

8. Crystallisation is not required due to the advent of which of the following new technique. 1

- a) X-ray crystallography
- b) NMR
- c) Sanger’s method of protein sequencing
- d) Edman’s method of protein sequencing

9. Optimum pH for plant tissue culture medium is- 1

- a) 7.5
- b) 5.7
- c) 8
- d) 8.5

10. The single letter codes for Tyrosine and Asparagine are 1

- a) N and Y
- b) A and T
- c) T and A
- d) Y and N

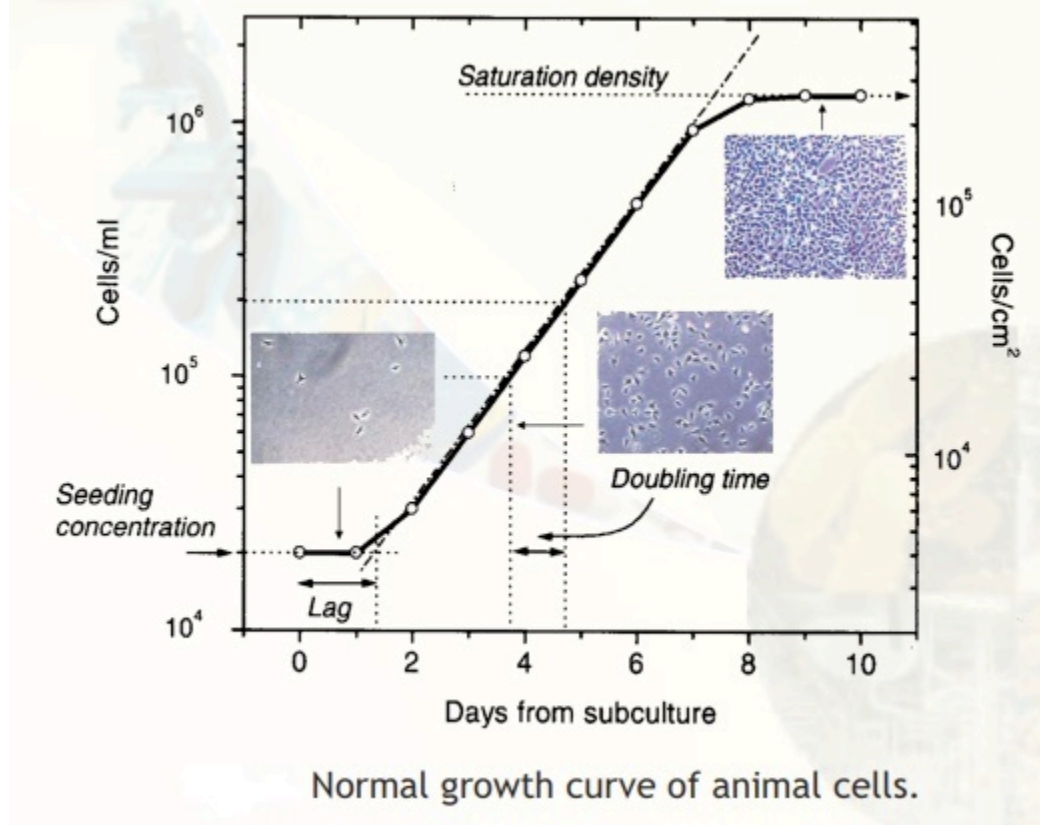
11. The disease due to the deficiency of an enzyme Adenosine Deaminase (ADA) is 1

- a) SCID
- b) Thallasemia
- c) Haemophilia
- d) Mad cow disease

12. **Question numbers 12(i) to 12(iv) are based on the following text on characterization of Cell Lines:**

In order to analyze the growth characteristics of a particular cell type or cell line, a growth curve can be established from which one can obtain a population doubling time, a lag time, and a saturation density. A growth curve generally will show the cell population's lag phase, that is, the time it takes for the cells to recover from subculture, attach, and spread; the log phase, in which the cell

number begins to increase exponentially and a plateau phase, in which the growth rate slows or stops due to depletion of growth factors and nutrients.



- (i). Beyond what cell concentration, saturation density is achieved? 1
- $> 10^4$ cells/ml
 - 10^4 to 10^5 cells/ml
 - $> 10^5$ cells/ml
 - $> 10^6$ cells/ml
- (ii). There is no increase in the cell concentration in the lag phase due to the following reasons: 1
- Exhaustion of the medium.
 - Space constraint
 - Both "a" and "b"
 - Acclimatization to the new environment.
- (iii). In which phase of growth is the specific growth rate of animal cell calculated? 1
- Log phase
 - Lag phase
 - Stationary phase
 - Decline phase.
- (iv). A student adds antibiotic to the animal cell culture medium and still obtains the same growth curve. The probable explanation for it will be: 1
- Antibiotics add growth factors and hormones in the medium
 - Antibiotics provide serum for the growth of animal cells.
 - Antibiotics enhance the nutrient content of the medium.
 - Antibiotics don't have any affect on animal cells

SECTION B

- 13 Differentiate between synthetic and complex medium used for microbial culture. 2
- 14 How can LEU 2 gene be used as a selectable marker? 2
- 15 On the basis of the table given below, state your observations pertaining to the organisation features of the organism. 2

ORGANISM	No. of chromosomes	Genome size in base pairs	The number of predicted genes	Part of the genome that encodes for proteins
Worm <i>Caenorhabditis elegans</i>	6	100,000,000	19,000	27%
Human <i>Homo sapiens</i>	23	3,000,000,000	20,000-25,000	<5%
Fly <i>Drosophila melanogaster</i>	4	175,000,000-196,000,000	13600	20%

- 16 Differentiate between somaclones and gametoclones. Who proposed the term somaclones? 2
- 17 a) What are the various interactions that stabilize a folded protein?
b) How can the stability of protein be changed? 2
- 18 What are various biosafety issues in microbial technology? 2

OR

The laboratory scale design cannot be scaled up to industrial scale directly. Write any two points that need to be considered while going for industrial scale production.

- 19 In a variant of chymotrypsin, Asp 102 is replaced by Glu 102. Do you expect the enzyme to retain activity? Schematically indicate the role of amino acid residues participating in catalysis. 2

OR

Thalassemic patients produce excess alpha or beta subunits of haemoglobin leading to impaired oxygen-binding capacity by their erythrocytes. How can it be determined as to which subunit is produced in excess?

SECTION C

- 20 Recombinant insulin is produced at 100 mg/l by *E. coli* at a cell concentration of 1 g/l. Calculate the volume of reactor (size of the fermentor) needed to produce kilogram of insulin in the following conditions: 3
- (a) When the cell concentration is 1 g/l and insulin production is 100 mg /l.
- (b) When the cell concentration is 50 g/l and insulin production is 100 mg /l.
- (c) When the cell concentration is 50 g/l and insulin production is 500 mg /l

- 21 Schematically explain the formation of recombinant plasmid. 3

OR

Students of Class XII visited Microbial Type Culture Collection, Chandigarh and observed microbial cultures of *Providencia stuartii*, *Streptomyces albus* and *Haemophilus aegyptus*. Name the restriction enzymes obtained from them and also specify their restriction sites.

- 22 Complete the table by filling the mode of action / functional properties indicated as A, B, C, D, E and F 3

Functional Property	Mode of action
Whipping/Foaming	A
B	Formation and stabilization of fat emulsions
C	Protein matrix formation and setting
Viscosity	D
E	Hydrogen bonding of water; entrapment of water
Solubility	F

- 23 Selection is an important step in genetic engineering. You are given ampicillin and tetracycline antibiotics. Using these antibiotics, which selection technique could be used to differentiate between recombinant and non-recombinant cells? 3

- 24 Write any six applications of plant genetic engineering. 3

- 25 How does the metagenomics approach help to identify novel genes present in the environment? Explain the process. 3

OR

What is a pilot plant? Why is it necessary to validate a process in a pilot plant before commercial scale production in a bioprocess industry?

- 26 Given below are few transgenic crops approved by US food and drug administration along with the improved character. Name the genes A to F introduced for the improved character. 3

Crop	Gene	Improved character
Canola	A	Hybrid production
Corn	B	Insect resistance
Cotton	C	Insect resistance
Papaya	D	Virus resistance
Potato	E	Insect and virus control
Soyabean	F	Weed Control

SECTION D

- 27 Mutation is an alteration in any of the base of a DNA sequence sometimes leading to a defective protein or prematurely terminated non-functional protein. It can be spontaneous or induced. Diagrammatically explain how mutation can be induced in a gene. 5

OR

A bacteriophage is known to infect *E.coli* with pili. How can it be modified to serve as a suitable vector?

- What are the major advantages of developing vectors based on such bacteriophages?
- 28 Explain the non-covalent interactions involved in organizing the structure of protein molecules. 5
- 29 Which two main methodologies are used for genome sequencing? Explain. 5
- OR**
- Explain the diseases caused by single gene mutations following mendelian inheritance specifying the genomic location, inheritance pattern and mutation.
- Name any two diseases showing gene polymorphism with complex inheritance.
- 30 Diagrammatically show the cultivation of adult stem cells from bone marrow and their differentiation into specialized cells. Name two scientists who established the field of stem cell research. For which medical conditions, stem cells can be used (Write any two)? 5

Business Studies Class 12 (2019-20)

Marking Scheme

1. c). both science and art.
2. Coordination.
3. a). Applicable only in large firms.
4. a). The extent and nature of government intervention in business
5. b). Selecting an alternative
6. b). Span of management.
7. a). Direct recruitment
8. a). Employer paid Insurance
9. b). Personal barrier
10. B) Leadership
11. A) Revise the schedule
- 12.c) Investment decision
- 13 a). Trading on equity.
- 14 d) Financing decision
- 15 a). Protective function
- 16 C). Production
- 17 c) Product
- 18 c) labelling
- 19 False
20. d) None of the above.
21. Following are the tasks that Mr. Armstrong needs to perform as a production manager in his firm to carry out the plans laid down by the Top managers: (Any three)
 - i. Interpret the policies framed by top management.
 - ii. Ensure that the production department has the necessary personnel.
 - iii. Assign necessary duties and responsibilities to them.
 - iv. Motivate them to achieve the desired objectives.
 - v. Cooperate with other departments for the smooth functioning of the organization.

OR

Following are the economic objectives of management

- 1) Survival
- 2) Profit
- 3) Growth. (3marks)

22 Three elements of delegation are-

1. Authority- Right of an individual to command his subordinates & to take action within the scope of his position. It is right to take decisions inherent in a job position.
2. Responsibility- it is the obligation of subordinate to properly perform the assigned duty. It arises from superior subordinate relationship. It flows upwards.
3. Accountability implies being answerable for the final outcome, i.e. subordinate will be answerable to superior for satisfactory performance of work.

(1/2 mark for heading and ½ mark for explanation) (1x3 =3)

23. Controlling. (1 mark)

It is considered an indispensable function of management because of the following reasons (Any two):

- i. Accomplishing organizational goals.

- ii. Judging accuracy of standards.
- iii. Making efficient use of resources.
- iv. Improving employee motivation.
- v. Ensuring order and discipline.
- vi. Facilitating coordination in action. (1x2=2)

24 a) Public relations- It involves variety of activities designed to promote or protect company's image & its individual products in the eyes of public. (1/2 mark for identification and ½ mark for explanation) (1 mark)

b) Any two of the following are the promotional tools which may also be used:

- i) Advertising
- ii) Personal Selling
- iii) Sales promotion (1/2 mark for heading and ½ mark for explanation) (1x2 = 2)

25. a. Right to be heard

b. Right to seek redressal

c. Right to consumer education (1x3=3)

26. Following are the points of importance of understanding Business Environment discussed: (Any two)

1. "Improve existing card facility-----"- It helps the firm in identifying threat and early warning signal."
2. "Exploit opportunity arising-----" – It helps to identify opportunities and get first mover advantage.
3. "Improve their performance----"- It helps in improving performance.
4. "Planned to hire more-----guidelines to train sales force" –It helps in assisting in planning and policy formulation.

(1/2 mark for quoting, ½ mark for identification, 1 mark for explanation) (2x2=4)

27. a). Importance of Decentralisation are- (Any two)

1. Develops initiative among subordinate- It helps to promote- self-reliance & confidence among subordinates.
2. Develops managerial talent for the future- Decentralisation gives subordinates a chance to prove their abilities & creates a reservoir of qualified workforce.
3. Quick decision making- Since decisions are taken at the points of action. Therefore, no approval of superiors & leads to quick decision making.
4. Relief to top management- Decentralisation diminishes the amount of direct supervision exercised by superior over his subordinates because they are given freedom to act within the limits set by top management & top management can concentrate on important policies.

(1/2 mark for identification and 1 ½ mark for explanation) (2x2=4)

b). Divisional structure- In a divisional structure, the organisation structure comprises of separate business units or divisions. Each division is self-contained as it develops expertise in all functions related to a product line

(1/2 mark for naming and ½ mark for explanation)

28- Factors affecting price determination-(any four)

1. Product cost- One of the most important factors affecting the price is its cost. It includes cost of producing, distributing & selling the product.
2. Utility& Demand- The product cost set the lower limit of price, the utility provided by the product &intensity of demand of product sets the highest price of the product.
3. Extent of competition in the market- when firm does not face any competition it has complete freedom in fixing up the price. But when competition is more the price of the product is fixed keeping in mind the competitor's price.

4. Government regulations- In order to protect the interests of the consumers government has all rights to control prices of important commodities & services.
5. Marketing methods used- The price of product is also affected by the methods & techniques used to promote the product.
6. Pricing objectives- Apart from profit maximization other objectives are-
 - a. Obtaining market share leadership-If firm wants to capture big share of market it has to keep its price low.
 - b. Surviving in competitive market- To survive in a competitive market the firm has to offer discounts.
 - c. Attaining product quality leadership- Generally high prices are charged to cover cost of R&D.

(1 mark for each statement) (1x4=4)

OR

The following are the components of physical distribution:

1. Transportation is the means of carrying goods and raw material from the point of production to the point of sale.
2. Warehousing refers to the act of storing and assorting products in order to create time utility in them.
3. Inventory Control- A very important decision in respect of inventory is deciding the level of inventory.
4. Order Processing- A good physical distribution system should provide for an accurate and speedy processing of orders.

(1 mark for each statement) (1x4=4)

29. Time Study- It determines the standard time taken to perform a well-defined job. The standard time is fixed for the whole of the task by taking several readings. The method of time study will depend upon volume and frequency of task, the cycle time of operation and time measurement costs.

For example- On the basis of several observations it is determined that standard time taken by the worker to make one cardboard box is 20 minutes. So in one hour she/he will make 3 boxes. Assuming that a worker has to put in 8 hours of work in a shift and deducting one hour for rest and lunch, it is determined that in 7 hours a worker makes 21 boxes @ 3 boxes per hour. Now this is the standard task a worker has to do. Wages can be decided accordingly.

(1 mark for naming and 4 marks for explanation)

OR

Differential Piece Wage System- The standard time and other parameters should be determined on the basis of the work study discussed above. The workers can be classified as efficient and inefficient on the basis of these standards. He wanted to reward the efficient workers. So he introduced different rate of wage payment for those who performed above standard and for those who performed below standard. For example- it is determined that standard output per worker per day is 10 units and those who made standard or more than standard will get Rs. 50 per unit and those below will get Rs. 40 per unit. Now an efficient worker making 11 units will get $11 \times 50 =$ Rs. 550 per day whereas, a worker who makes 9 units will get $9 \times 40 =$ Rs. 360 per day. According to Taylor, the difference of Rs. 190 should be enough for the inefficient worker to be motivated to perform better.

(1 mark for naming and 4 marks for explanation)

30. Standing plans are used for activities that occur regularly over a period of time. It is designed to ensure that internal operations of an organisation run smoothly. (1 mark)

Single use plans- A single use plan is developed for a one-time event or project. Such a course of action is not likely to be repeated in the future.. (1 mark)

The following type of plans discussed above are classified as standing plans:

- i. "changing the vendors....."- Policy is a general statement that guides thinking or channelizes energies towards a particular direction.
- ii. "Seminar for higher levels.....supervisory management"- Method provides the prescribed ways or manner in which a task has to be performed considering the objective.
- iii. "Attending the meeting not discretion----- penalty"- Rules are specific statements that inform what is to be done. (1/2 mark for quoting; ½ mark for explaining) (1x3=3)

31. Meaning- Decision to invest in fixed assets are known as capital budgeting decision. (1 mark)

Factors affecting fixed capital requirement- (Any four)

1. Nature of business- The type of business has a bearing upon the fixed capital requirement.
2. Scale of operation- A larger organization requires higher investment in fixed capital.
3. Choice of technique- A capital intensive organization requires higher investment in plant and machinery.
4. Technology upgradation- Such organisations which use assets which are prone to obsolescence require higher fixed capital.
5. Growth prospects-Higher growth of an organization generally requires higher investment in fixed assets.
6. Diversification- With diversification the fixed capital requirements increase.
7. Financing alternatives- Availability of leasing facility may reduce the funds required to be invested in fixed assets.
8. Level of collaboration- Collaboration reduces the level of investment in fixed assets.

(1 mark for each statement) (1x4=4)

OR

Importance of financial planning: (Any five)

1. It helps in forecasting what may happen in the future.
2. It helps in avoiding business shocks and surprises.
3. It helps in coordinating various business functions.
4. Reduce wastage, duplication of efforts.
5. It links present with the future.
6. It provides link between investment and financing decision.
7. It makes measurement of actual performance easier.

(1 mark for each statement) (1x5=5)

32. Staffing (1 mark)

Proper staffing ensures the following benefits to the organization-

- (i) helps in discovering and obtaining competent personnel for various jobs;
- (ii) makes for higher performance, by putting right person on the right job;
- (iii) ensures the continuous survival and growth of the enterprise through the succession planning for managers;
- (iv) helps to ensure optimum utilisation of the human resources. By avoiding overmanning, it prevents under-utilisation of personnel and high labour costs. At the same time it avoids disruption of work by indicating in advance the shortages of personnel; and
- (v) improves job satisfaction and morale of employees through objective assessment and fair rewarding of their contribution.

(1 mark for each statement)

33. Directing refers to the process of instructing, guiding, counselling, motivating and leading people in the organisation to achieve its objectives. (2 mark)

The points of importance of directing are any four:-

- (i) Directing helps to initiate action by people in the organisation towards attainment of desired objectives.

(ii) Directing integrates employees' efforts in the organisation in such a way that every individual effort contributes to the organisational performance. Thus, it ensures that the individuals work for organisational goals.

(iii) Directing guides employees to fully realise their potential and capabilities by motivating and providing effective leadership

(iv) Directing facilitates introduction of needed changes in the organisation.

- (v) Effective directing helps to bring stability and balance in the organisation since it fosters cooperation and commitment among the people and helps to achieve balance among various groups, activities and the departments.

(1 mark for each statement)

OR

Motivation- Motivation means incitement or inducement to act or move. It means the process of making subordinates to act in a desired manner to achieve certain organisational goals. (2 mark)

Features of motivation-

1. It is an internal feeling.
2. It produces goal directed behavior.
3. It can be either positive or negative.
4. It is a complex process.

(1 mark for each statement)

34. Method of floatation used is **offer for sale**- In this method securities are not offered directly to the public but are offered for sale through intermediaries like stock brokers. (1 mark for identification and 1½ mark for explanation)

Other methods are-

1. Offer through prospectus- This method involves inviting subscription from public through prospectus. The issue may be underwritten & has to be listed with one stock exchange.
2. E-IPO-A company proposing to issue capital to the public through online system of stock exchange.

(1/2 mark for naming and 1 and ½ mark for explanation)

OR

a. The steps discussed in above para are-

1. Selection of broker- The buying & selling can be through SEBI broker. The first step is to select a broker who will buy/sell securities on behalf of investor.
2. Opening DEMAT account with a depository participant. (1x2=2)

b. The next four steps of the trading procedure:

1. **Placing an order**- Investor places an order with the broker to buy or sell shares. Brokers go ahead with the deal & order confirmation slip is issued to the investor by the broker.
2. **Match the order**- The broker will go online & match the share & the price.
3. **Executing order**- When the shares can be bought & sold at the price mentioned it will be communicated to the broker terminal & order will be executed electronically. The broker will issue trade confirmation slip to investor.
4. **Issue of contract note**- After the trade has been executed within 24 hours the broker issues contract note. It contains details regarding no. & price of shares.

(1 mark for each statement)

Business Studies Class 12

Sample paper (2019-20)

Duration: 3 hours

Maximum Marks: 80

Section – A

Q.N.	Question	Max marks
1	Management is a. A Science; b. An Art; c. both science and art; d. Neither.	1
2	The purchase, production and sales managers at Sharda Ltd, a firm manufacturing readymade garments are generally at a conflict, as they have their own objectives. Usually each thinks that only they are qualified to evaluate, judge and decide on any matter, according to their professional criteria. Name the concept which will be required by the CEO Mr. Raman, to reconcile the differences in approach, interest or opinion in the organisation.	1
3	Principles of management are NOT: a. Applicable only in large firms; b. Formed by practice and experience of managers; c. Flexible; d. Contingent	1
4	_____ is considered a major element of the political environment: a. The extent and nature of government intervention in business; b. planned outlay in public and private sectors; c. Expectations from the work force; d. Administrative order issued by government authorities.	1
5	Name the step in the process of planning which is considered the “real point of decision making”.	1
6	_____ gives shape to the organisation structure. a) Extent of delegation; b) Span of Management; ;c) No of employees; d) Planning	1
7	Astra Builders has to deliver the flats to its buyers on time. Due to this there is a sudden rush of work. Therefore, the company needs to arrange workers to work at the sites at a short notice. The source of recruitment which may be used by the company to tap the casual vacancy is: a. Direct recruitment; b. Advertisement; c. Recommendation of employees; d. Employment Exchange.	1
8	SCT services CEO RajanGopinath’s compensation includes salary, commission and other allowances. The company also pays for his insurance and vacations. Identify one indirect payment being made by the company to the CEO. a. Employer paid Insurance; b. Salary; c. Commission; d. Allowances.	1
9	At Support.com, there is no reward or appreciation for a good suggestion. Thus, the subordinates are not willing to offer any useful suggestions to their superiors. Identify the type of barrier to communication that has been created in the firm due to this. a. Semantic barrier; b. Personal barrier; c. Organisational barrier; d. Psychological barrier	1
10	M.R.Sarathi, the Ex-chairman of Swadesh Ltd, built up his successor before retiring. Following the norms set up by himself, he handed over the reins of the company to the co-founder Mr. Shravan, who had the potential to bring about change in the behaviour of others. Name the concept of management which was the reason why Mr. Sarathi chose Mr. Shravan to be his successor. A. Motivation; B. Leadership; C. Communication; D. Staffing.	1

11	An important project at AMB consultants is running behind schedule by a month. This has upset their clients and might affect the reputation of the company in the long run. No managerial action like assigning more workers, equipment or giving overtime has been able to solve the problem. What managerial action may now be taken by the company to avoid such a situation from arising in the future? A. Revise the schedule; B. Assigning additional workers and equipment to the project; C. Get permission for further overtime work; D. Both B&C.	1
12	A decision to acquire a new & modern plant to upgrade an old one is known as _____ decision. a) Financing decision; (b) working capital decision; (c) Investment decision; (d) Dividend decision.	1
13	ABC Ltd. has Debt Equity ratio of 3:1 whereas XYZ Ltd. has Debt Equity ratio of 1:1. Name the advantage ABC Ltd will have over XYZ Ltd, when the rate of interest is lower than the rate of return on investment of the company. (a) Trading on equity; (b) Low risk; (c) Low cost of equity ; (d) Greater flexibility.	1
14	Vikrant joins his father's business of Organic masalas, near Kotgarh in Himachal after completing his MBA. In order to capture a major share of the market, he decided to sell the product in small attractive packages by using the latest packaging technology. His father suggested that they hire financial consultants to estimate the amount of funds that would be required for the purpose & timings when it would be required. The concept being discussed by Vikrant's father, links which financial decision with the investment decision.? a.)Dividend decision ;(b) Financial Planning; (C) capital structure decision; (d) Financing decision.	1
15	Raghav's friend Raman works as a Chartered Accountant in Solutions Ltd. Raman in a meeting with the Board of Directors of the Company came to know that the firm would soon be declaring a Bonus issue which would result in increase in the price of shares. Considering this, Raman advised Raghav to purchase the shares of Solutions Ltd., who acted on his advice and bought the shares before time. Which function of SEBI can control such malpractices? (a) Protective functions; (b) Regulatory functions; (c) Development functions; (d) All the above.	1
16	Large scale production done to reduce the average cost of production is the essence of _____ concept of Marketing management. a) Product; b) Selling; c) Production; d) Marketing	1
17	Saumya decided to start a business of selling dress material from her house. She did various online surveys to find out about the preferences of prospective customers. Based on this, she prepared a detailed analysis of the business. She then made important decisions including deciding about the features, quality, packaging, labelling and branding of the dress material. Identify the element of Marketing Mix discussed above. (a)Promotion; (b) Market; (c) Product; (d) Place.	1
18	Tomato Ltd., a food delivery service app has recently faced criticism for the tampering of their product, by their delivery boys. Tomato Ltd. decided to put a hologram seal on the food packets in order to protect the contents from spoilage, leakage, pilferage, damage, along with a tag with a safety warning for the consumers to check the seal. Which concept of marketing discussed above is	1

	performing the important function of communicating with the potential buyer and promoting the sale. (a) Branding; (b) Product designing and development; (c) labelling; (d) packaging.	
19	Asserting oneself to ensure that one gets a fair deal, is the right of a consumer. (True/False)	1
20	Sheela went to a free eye camp & got her eyes operated for cataract. The surgery was not done properly, due to which she lost her vision. Where can she file a complaint under consumer protection act? (a) At District forum (b) State commission (c) National Commission (d) None of above	1

Section – B

Q.N.	Question	Max marks
21	List any three tasks that Mr. Armstrong needs to do, as a production manager, in his firm, to carry out the plans laid down by the top managers. Or Enumerate the three economic objectives of management.	3
22	“Delegation of authority, undoubtedly empowers an employee to act for his superior, but the superior would still be accountable for the outcome. Explain the elements of delegation of authority discussed above.	3
23	Banwari Lal is a cloth merchant in Karol Bagh. His grandsons are requesting him to let them diversify the business into bridal wear. Banwari Lal has agreed but on the condition that they will follow the function of management he has always followed, which helps an organisation in keeping track of the progress of activities and ensures that the activities conform to the standards set in advance so that the organisational goals are achieved. Name the function of management which Banwari Lal is asking his grandsons to follow. List any two reasons why it is considered an indispensable function of management.	3
24	The Research & Development department of Healthy Production Ltd. has decided to diversify from manufacturing health drinks to cereals made from millets. They are well aware of the fact that the company will have to communicate to the people the benefits of eating millets. For this purpose, they plan to sponsor various events like marathons and encourage people to switch to healthy eating through newsletters. a) Identify and briefly explain the promotional tool being discussed above. b) Also explain any two other promotional tool that can be used by the company, apart from the one discussed above.	3
25	Rita Sharma who works as a guard in a school, purchased two shirts for ₹460 each for her son. When she went back home, she realised that the shirt was small in size for her son. She decided to ask for return of money or exchange of the shirt with an appropriate size. But the store owner refused to return the money or exchange the shirt. Rita Sharma was disheartened. Her friend advised her to go to ‘Seva Sadan’, an autonomous voluntary organisation working for the protection of consumer	3

	<p>welfare.</p> <p>The organisation helped her by explaining to her the legal procedure, as well as educated her about her rights as a consumer and helped her in filing the complaint and getting relief. With the help of the organisation Rita was able to get her money back from the store. Enumerate the rights of a consumer which Rita Sharma was able to exercise with the help of the voluntary organisation.</p>	
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Section - C

Q.N.	Question	Max marks
26	<p>The Government is considering a pioneer proposal to launch a single debit-cum-credit card to increase the ease and usage for the consumers. The card which will be called the “National Mobility Card” will have unique advantages for making payments in metro, buses, parking and making transactions during visits abroad. After hearing this news, Mega Bank decided to launch a “Mega Mobility Card” on similar lines , so that they could be the first to exploit the opportunity, arising due to the increasing trend of digitization. In order to improve their performance, they laid down a plan to hire more people in their marketing department and prepared guidelines to train their sales force to market the new card facility being launched by the bank. By quoting the lines, identify and explain any two points of importance of understanding Business Environment discussed above.</p>	4
27	<p>Infocom has diversified itself into several product lines: Telecommunications, Engineering, financial services. Each subsidiary is self-sufficient with their-own administrative functions, propagating the belief that people can assume the responsibility for the effective implementation of their decisions and should be given autonomy. This has reduced the need for direct supervision by superiors, has promoted flexibility, initiative and faster decision making. The orders of customers are never delayed, as a result of good policy decisions of top management.</p> <p>(a). Identify and explain any two points of importance of the concept being discussed above.</p> <p>(b). Name and briefly explain a suitable framework for the company within which the managerial and operating task are to be performed.</p>	4
28	<p>State any four factors which affect the determination of the price of the product.</p> <p style="text-align: center;">OR</p> <p>State the four components of physical distribution?</p>	4

Section – D

Q.N.	Question	Max marks
29	<p>Name and explain with a suitable example the technique of Scientific Management given by Taylor, with the objective of determining the number of workers to be employed for a task.</p> <p style="text-align: center;">OR</p> <p>Name and explain with a suitable example the technique of Scientific Management given by Taylor to differentiate between the efficient and the inefficient workers.</p>	5

30	<p>An Auto Company, Win Ltd is facing a problem of declining market share due to increased competition from other new and existing players in the market. Its competitors are introducing lower priced models for mass consumers who are price sensitive. The Board of Directors of the Company announced a meeting to discuss the decisions regarding pricing and launching a new range of models, in order to increase the market share of the company. Attending the meeting was not a discretion for the directors and a penalty was announced for not attending the meeting. The following decisions were taken in the meeting:</p> <p>a) to define the desired future position of the company, as acquiring a dominant position in the market by increasing the market share to 10% in 1 year.</p> <p>b) to change the criteria for choosing vendors for procuring supplies;</p> <p>c) to invest in development of the human resources of the organisation by providing training to higher levels by holding seminars and providing on the job training for the supervisory management.</p> <p>What are standing plans and single use plans? Briefly explain the plans discussed above, which can be classified as standing plans, by quoting the lines.</p>	5
31	<p>What is meant by Capital Budgeting? State any four factors affecting fixed capital requirement of a firm.</p> <p>OR</p> <p>Enumerate any five points of importance of financial planning.</p>	5

Section - E

Q.N.	Question	Max marks
32	<p>Ali Mohammad the CEO of Super Ltd believes that human resource is the most important asset of the firm. He believes that no organisation can be successful unless it can fill and keep filled the various positions provided for in the structure with the right kind of people. Identify the function of management being discussed above and state the benefits to the organisation that its proper application in the firm will ensure.</p>	6
33	<p>What is the meaning of Directing? State any four points of importance of Directing as a function of management.</p> <p>OR</p> <p>What is the meaning of motivation? State the features of motivation as an element of Directing.</p>	6
34	<p>Kynaa, a beauty products e-commerce company, is diversifying into men's grooming. It is also tapping the demand for beauty products in the fashion industry and amid professionals such as make-up artists. As it diversifies its online presence, Kynaa is also expanding its physical presence. They have 41 outlets across 18 cities presently and plan to expand to 180 outlets. Each store requires a capital expenditure of 60-80 lakh rupees. The company has decided to raise funds by issuing equity shares but not directly to the public, rather by offering them for sale through brokers. Identify and briefly explain the method of floatation followed by the company. Also name & explain the other methods of floatation that can be used by the company for raising funds from the public, in the primary market.</p>	6

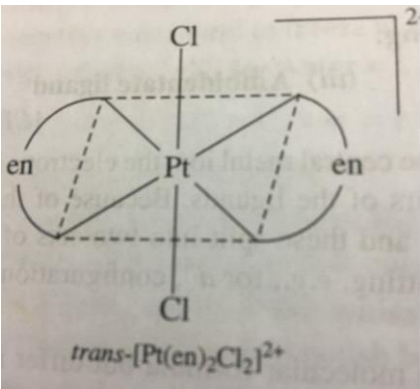
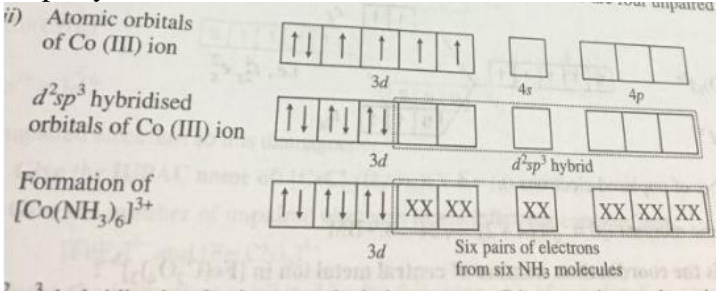
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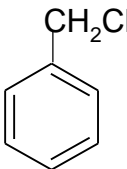
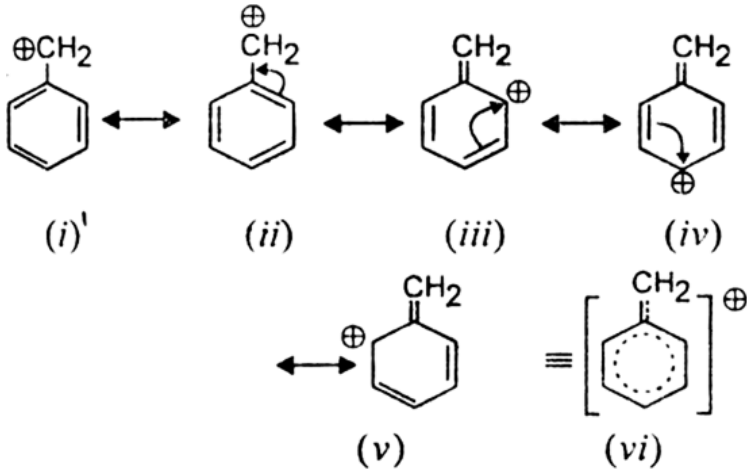
Radhika got 10, 00,000 rupees after selling her parental property which she had got as a gift from her grandmother. Her friend advised her to invest in securities in the stock market. Radhika was unaware of the procedure for the same. Her friend introduced her to a stock broker, who was registered with the National Stock Exchange. Radhika approached the broker. The broker guided her to open a DEMAT account with a Depository, as well as a Bank account. Radhika opened a Bank account & DEMAT account with Exin Bank.

- (a) Identify the steps in the trading procedure for buying and selling of securities which have been discussed above.
- (b) State the next four steps of the trading procedure.

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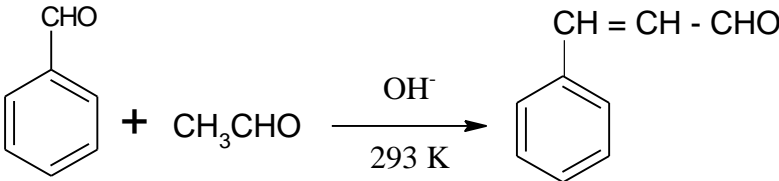
Q.No.	Value points	Marks
	SECTION:A	
1.	Reaction taking place at cathode when the battery is in use: $PbO_2(s) + SO_4^{2-}(aq) + 4H^+(aq) + 2e^- \rightarrow PbSO_4(s) + 2H_2O(l)$	1
2.	2 F	1
3.	$Molarity = \frac{38 \times 1.294 \times 1000}{98 \times 100} = 5.02M$	1
4.	It can be recharged after use.	1
5.	At anode: O ₂ (g) At cathode: H ₂ (g)	½ ½
6.	Sodium cyanide.	1
7.	Nucleotide	1
8.	Zwitterion / dipolar ion	1
9.	Condensation	1
10.	Benzaldehyde	1
11.	(c)	1
12.	(b)	1
13.	(b)	1
14.	(a)	1
15.	(b)	1
16.	(c)	1
17.	(a)	1
18.	(d)	1
19.	(d)	1
20.	(d)	1
	SECTION:B	
21.	Lone pairs : 2 Geometry : Square planar	1 1
22.	(i) $Slope = -\frac{E_a}{2.303 R}$ (ii) $k_1 > k_2$	1 1
23.	When there is dissociation of solute into ions, in dilute solutions (ignoring interionic attractions) the number of particles increases. As the value of colligative properties depends on the number of particles of the solute, the experimentally observed value of colligative property will be higher than the true value, therefore the experimentally determined (observed) molar mass is always lower than the true value. For KCl(electrolyte) the experimentally determined molar mass is always	1 ½

	<p>lower than the true value when water is used as solvent. Glucose (non-electrolyte) does not show a large variation from the true value.</p>	1/2
24.	(a) $\text{CH}_3\text{-CH}(\text{Cl})\text{-COOH}$	1
	(b) $\text{C}_6\text{H}_5\text{CHO}$	1
25.	 <p>IUPAC Name of the entity: Dichloridobis(ethane-1,2-diamine)platinum(IV) ion</p> <p style="text-align: center;">OR</p> <p>Bonding in $[\text{Co}(\text{NH}_3)_6]^{3+}$ d^2sp^3 hybridisation</p>  <p>Geometry: Octahedral</p> <p>Diamagnetic</p>	<p>1</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>
26.	<p>Vapour phase refining: It is a refining method in which the metal is converted into its volatile compound and collected elsewhere. It is then decomposed to give pure metal.</p> <p>Example: Mond's Process for refining of Nickel / van Arkel method for refining of Zirconium</p>	<p>1</p> <p>1</p>

	<p>Equations involved:</p> $Ni + 4CO \xrightarrow{330-350K} Ni(CO)_4$ $Ni(CO)_4 \xrightarrow{450-470K} Ni + 4CO$ <p>OR</p> <p>Extraction of gold involves leaching the metal with CN^-</p> <p>Oxidation reaction:</p> $4 Au (s) + 8 CN^- (aq.) + 2H_2O (aq.) + O_2 (g) \rightarrow 4[Au(CN)_2]^- (aq.) + 4 OH^- (aq.)$ <p>The metal is recovered by displacement method:</p> $2[Au(CN)_2]^- (aq.) + Zn (s) \rightarrow 2 Au (s) + [Zn(CN)_4]^{2-} (aq.)$ <p>Zinc acts as a reducing agent.</p>	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>
27.	<p>The following compound will undergo S_N1 faster:</p>  <p>Greater the stability of the carbocation, greater will be its ease of formation from the corresponding halide and faster will be the rate of reaction. The benzylic carbocation formed gets stabilised through resonance.</p>  <p>$CH_3CH_2CH_2Cl$ forms a 1^0 carbocation, which is less stable than benzylic carbocation.</p>	<p>1/2</p> <p>1/2</p> <p>1/2</p>
28.	<p>SECTION :C</p> $KCl \rightarrow K^+ + Cl^-$ $n = 2$ $i = 1 - \alpha + n\alpha$ $i = 1 + \alpha$	<p>1/2</p> <p>1/2</p> <p>1/2</p>

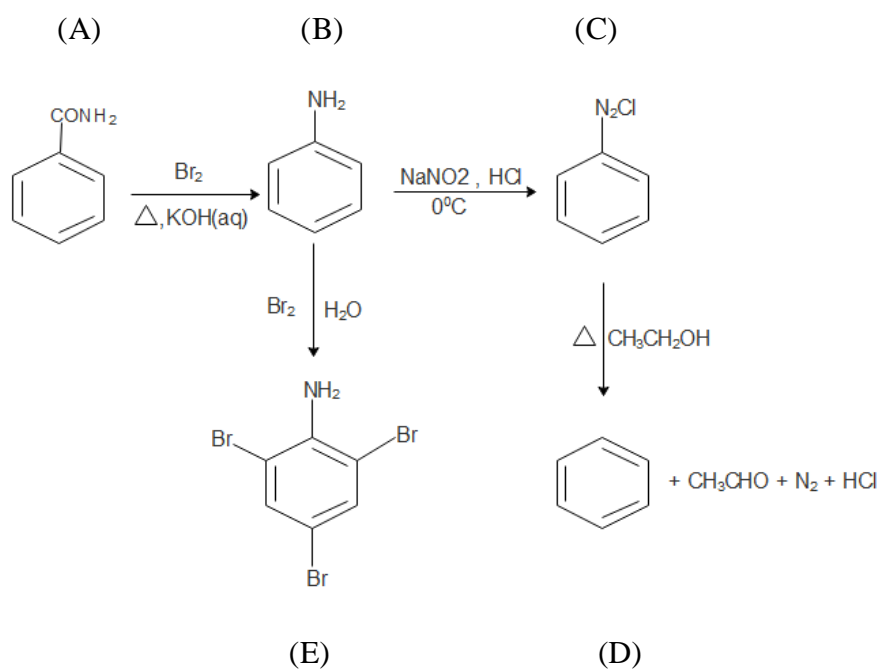
	$\Delta T_f = iK_f m$ $= (1 + 0.92) \times 1.86 \times \frac{0.5 \times 1000}{74.5 \times 100}$ $\Delta T_f = 0.24$ $\Delta T_f = T_f^0 - T_f'$ $T_f' = - 0.24 \text{ } ^\circ\text{C}$	<p>1/2</p> <p>1/2</p> <p>1/2</p>
29.	<p>$rate = k [A]^x [B]^y$</p> <p>$0.05 = k [0.1]^x [0.1]^y \dots\dots(i)$</p> <p>$0.10 = k [0.2]^x [0.1]^y \dots\dots(ii)$</p> <p>$0.05 = k [0.1]^x [0.2]^y \dots\dots(iii)$</p> <p>$(ii) \div (i)$</p> $\frac{0.10}{0.05} = (2)^x$ <p>$x = 1$</p> <p>$(iii) \div (i)$</p> $\frac{0.05}{0.05} = (2)^y$ <p>$y = 0$</p> <p>$rate = k [A]^1 [B]^0$</p> <p>It is a first order reaction.</p> $k = \frac{rate}{[A]} = 0.5 \text{ s}^{-1}$ $t_{1/2} = \frac{0.693}{k} = \frac{0.693}{0.5}$ $t_{1/2} = 1.386 \text{ s}$ <p style="text-align: center;">OR</p> $t_{1/2} = \frac{0.693}{k}$ $k_2 = \frac{0.693}{25} \quad 350\text{K}$ $k_1 = \frac{0.693}{50} \quad 300\text{K}$ $\frac{k_2}{k_1} = 2$	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>

	$\log \frac{k_2}{k_1} = \frac{E_a}{2.303R} \left[\frac{1}{T_1} - \frac{1}{T_2} \right]$ $\log 2 = \frac{E_a}{2.303 \times 8.314} \left[\frac{350-300}{350 \times 300} \right]$ <p>$E_a = 12.104 \text{ kJ / mol.}$</p>	<p>1/2</p> <p>1/2</p> <p>(1/2 + 1/2)</p>
30.	<p>(a) $\text{K}_4[\text{Fe}(\text{CN})_6]$</p> <p>(b) $\text{Fe}(\text{OH})_3$ is converted into colloidal state by preferential adsorption of Fe^{3+} ions.</p> <p>(c) Proteins</p>	<p>1</p> <p>1</p> <p>1</p>
31.	<p>(a) Moist sulphur dioxide behaves as a reducing agent, reduces MnO_4^- to Mn^{2+}.</p> <p>(b) X-X' bond in interhalogens is weaker than X-X bond in halogens except F-F bond.</p> <p>(c) Due to the ease with which it liberates atoms of nascent oxygen.</p>	<p>1</p> <p>1</p> <p>1</p>
32.	<p>1-Propoxypropane is formed. Mechanism involved: Step 1 :Formation of protonated alcohol</p> $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH} + \text{H}^+ \xrightarrow{\text{H}_2\text{SO}_4} \text{CH}_3\text{CH}_2\text{CH}_2-\overset{\oplus}{\text{O}}\begin{matrix} \text{H} \\ \text{H} \end{matrix}$ <p style="text-align: center;">Propan-1-ol</p> <p>Step 2: Nucleophilic attack</p> $\text{CH}_3\text{CH}_2\text{CH}_2-\overset{\ominus}{\text{O}}\text{H} + \text{CH}_3-\text{CH}_2-\text{CH}_2-\overset{\oplus}{\text{O}}\begin{matrix} \text{H} \\ \text{H} \end{matrix} \longrightarrow \text{CH}_3\text{CH}_2\text{CH}_2-\overset{\oplus}{\text{O}}\begin{matrix} \text{H} \\ \text{H} \end{matrix}-\text{CH}_2\text{CH}_2\text{CH}_3$ <p style="text-align: center;">H₂O</p> <p>Step 3: Deprotonation</p> $\text{CH}_3\text{CH}_2\text{CH}_2-\overset{\oplus}{\text{O}}\begin{matrix} \text{H} \\ \text{H} \end{matrix}-\text{CH}_2\text{CH}_2\text{CH}_3 \longrightarrow \text{CH}_3\text{CH}_2\text{CH}_2-\text{O}-\text{CH}_2\text{CH}_2\text{CH}_3 + \text{H}^+$ <p style="text-align: center;">1 - Propoxypropane</p>	<p>1</p> <p>1/2</p> <p>1</p> <p>1/2</p>
33.	<p>(a)</p> <p>(i)</p>	

(ii)	Experiment	Ethanal	Propanone	1
	1. Tollens Test: Warm the organic compound with freshly prepared ammoniacal silver nitrate solution (Tollen's reagent).	A bright silver mirror is produced	No silver mirror is formed.	
	2. Fehlings Test: Heat the organic compound with Fehling's reagent.	A reddish brown precipitate is obtained.	No precipitate is obtained	
	Any one test			
(b)	Experiment	Pentan-2-one	Pentan-3-one	1
	Iodoform Test: The organic compound is heated with iodine in presence of sodium hydroxide solution.	A yellow precipitate is obtained.	No yellow precipitate is obtained.	
	Or any other suitable test.			1
	4- Methoxybenzoic acid < Benzoic acid < 4- Nitrobenzoic acid < 3,4-Dinitrobenzoic acid			
	OR			
	The carbon atom of the carbonyl group of benzaldehyde is less electrophilic than carbon atom of the carbonyl group present in ethanal. The polarity of the carbonyl group is reduced in benzaldehyde due to resonance hence less reactive than ethanal.			1
				1
				1
34.				
(a)	Broad spectrum antibiotics: Antibiotics which kill or inhibit a wide range of Gram-positive and Gram-negative bacteria. e.g. Chloramphenicol.			1
(b)	any other suitable example. Analgesics:			1/2

	Reduce or abolish pain without causing impairment of consciousness, mental confusion, incoordination or paralysis or some other disturbances of nervous system. e.g. Aspirin / paracetamol etc. any other suitable example.	1 ½
SECTION:D		
35.		
(a)	$Fe + 2H^+ \rightarrow H_2 + Fe^{2+}$ $E_{cell} = E_{cell}^0 - \frac{2.303RT}{nF} \log \frac{Fe^{2+}}{[H^+]^2}$ $E_{cell}^0 = E_{H^+/H_2}^0 - E_{Fe^{2+}/Fe}^0$ $= 0 - (-0.44) = 0.44V$ $0.1745 = 0.44 - \frac{0.0591}{2} \log \frac{[0.1]}{[x]^2}$ <p>Log x = -5 Log[H⁺] = -5 [H⁺] = 10⁻⁵</p>	1 ½ ½ ½
(b)	The mass of copper and silver deposited at the cathode will be different. The amount of different substances deposited by the same quantity of electricity passing through the electrolytic solution are directly proportional to their chemical equivalents.	1 1
	OR	
(a)	$\Lambda^{\circ}(CH_3COOH) = \lambda_{H^+}^{\circ} + \lambda_{CH_3COO^-}^{\circ}$ $= 349.6 + 40.9 = 390.5 \text{ S cm}^2 \text{ mol}^{-1}$ $\Lambda_m = \frac{\kappa \times 1000}{c}$ $\Lambda_m = \frac{8.0 \times 10^{-5} \text{ S cm}^{-1} \times 1000 \text{ cm}^3 \text{ L}^{-1}}{0.0024 \text{ mol L}^{-1}} = 33.33 \text{ S cm}^2 \text{ mol}^{-1}$ $\alpha = \frac{\Lambda_m}{\Lambda_m^{\circ}}$ $\alpha = \frac{33.33 \text{ S cm}^2 \text{ mol}^{-1}}{390.5 \text{ S cm}^2 \text{ mol}^{-1}} = 0.085$	½ ½ ½ ½
(b)	Electrolyte B is a strong electrolyte. Limiting molar conductivity increases only to a smaller extent for a strong electrolyte, as on dilution the interionic interactions are overcome. Limiting molar conductivity increases to a larger extent for a weak electrolyte, as on dilution the degree of dissociation increases, therefore the number of ions in total volume of solution increases.	1 ½ ½

36.

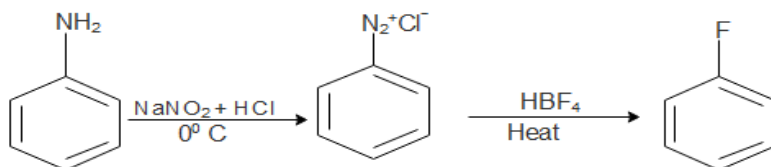


(1/2 x 5 marks for structure and 1/2 x 5 for writing equations)

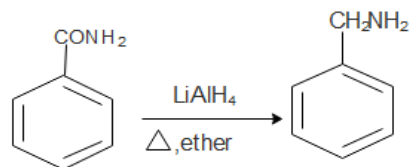
OR

(a)

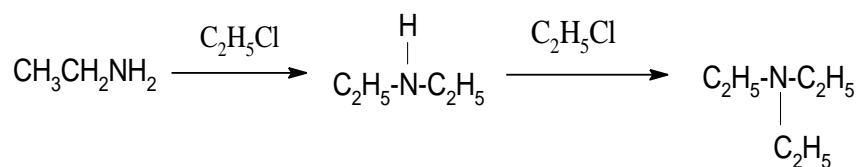
(i)



(ii)



(iii)



(b)

(i)

A : $\text{CH}_3\text{CH}_2\text{CONH}_2$ B : $\text{CH}_3\text{CH}_2\text{NH}_2$

(ii)

5

1

1

1

1/2

1/2

1/2

1/2

	A: CH ₃ CH ₂ CH ₂ NH ₂ B:CH ₃ CH ₂ CH ₂ OH	
37.		(1/2x 2)
(a)	A = FeCr ₂ O ₄ B = Na ₂ CrO ₄ C = Na ₂ Cr ₂ O ₇ D = K ₂ Cr ₂ O ₇	
(b)		
(i)	5f, 6d and 7s levels in actinoids are of comparable energies.	1
(ii)	This is due to poorer shielding by 5f electrons in actinoids as compared to shielding by 4f electrons in lanthanoids.	1
(iii)	In actinoids, 5f electrons are more effectively shielded from the nuclear charge than the 4f electrons of the corresponding lanthanoids. Since the outer electrons are less firmly held, they are available for bonding in the actinoids.	1
	OR	
(a)		
(i)	MnO ₄ ²⁻ ions disproportionate in acidic medium to give Permanganate ions and Manganese(IV) oxide.	½
	$3MnO_4^{2-} + 4H^+ \rightarrow 2MnO_4^- + MnO_2 + 2H_2O$	½
(ii)	Lanthanum sulphide if formed.	½
	$2La + 3S \xrightarrow{heat} La_2S_3$ (Deduct overall ½ mark if equation not balanced/ statements not written)	½
(b)		
(i)	Copper has high enthalpy of atomisation and low enthalpy of hydration. Since the high energy to transform Cu(s) to Cu ²⁺ (aq) is not balanced by hydration enthalpy, therefore E°(M ²⁺ /M) value for copper is positive(+0.34 V).	1
(ii)	Cr ²⁺ is reducing as its configuration changes from d ⁴ to d ³ , the latter having more stable half filled t _{2g} level. On the other hand, the change from Mn ³⁺ to Mn ²⁺ results in extra stable d ⁵ configuration.	1

(iii)	This is due to the increasing stability of the species of lower oxidation state to which they are reduced.	1

CHEMISTRY

Time : 3 hrs.

M. Marks : 70

General Instructions

- (a) All questions are compulsory.
- (b) Section A: Q.no. 1 to 20 are very short answer questions (objective type) and carry 1 mark each.
- (c) Section B: Q.no. 21 to 27 are short answer questions and carry 2 marks each.
- (d) Section C: Q.no. 28 to 34 are long answer questions and carry 3 marks each.
- (e) Section D: Q.no. 35 to 37 are also long answer questions and carry 5 marks each.
- (f) There is no overall choice. However an internal choice has been provided in two questions of two marks, two questions of three marks and all the three questions of five marks weightage. You have to attempt only one of the choices in such questions.
- (g) Use log tables if necessary, use of calculators is not allowed.

SECTION - A

Read the given passage and answer the questions 1 to 5 that follow:

A Lead storage battery is the most important type of secondary cell having a lead anode and a grid of lead packed with PbO_2 as cathode. A 38% solution of sulphuric acid is used as electrolyte. (Density = 1.294 g mL^{-1}) The battery holds 3.5 L of the acid. During the discharge of the battery, the density of H_2SO_4 falls to 1.139 g mL^{-1} . (20% H_2SO_4 by mass)

- (1) Write the reaction taking place at the cathode when the battery is in use.
- (2) How much electricity in terms of Faraday is required to carry out the reduction of one mole of PbO_2 ?
- (3) What is the molarity of sulphuric acid before discharge?
- (4) Lead storage battery is considered a secondary cell. Why?
- (5) Write the products of electrolysis when dilute sulphuric acid is electrolysed using Platinum electrodes.

Questions 6 to 10 are one word answers:

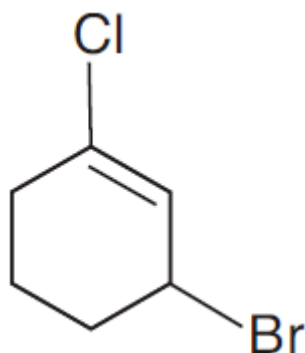
- (6) Name the substance used as depressant in the separation of two sulphide ores in Froth floatation method.
- (7) Name the unit formed by the attachment of a base to 1' position of sugar in a nucleoside.
- (8) Name the species formed when an aqueous solution of amino acid is dissolved in water?
- (9) What type of reaction occurs in the formation of Nylon 6,6 polymer?

(10) Which of the following compounds would undergo Cannizzaro reaction:

Benzaldehyde, Cyclohexanone, 2-Methylpentanal.

Questions 11 to 15 are multiple choice questions:

(11) The IUPAC name of the compound shown below is:



- (a) 2-bromo-6-chlorocyclohex-1-ene
- (b) 6-bromo-2-chlorocyclohexene
- (c) 3-bromo-1-chlorocyclohexene
- (d) 1-bromo-3-chlorocyclohexene

(12) When one mole of $\text{CoCl}_3 \cdot 5\text{NH}_3$ was treated with excess of silver nitrate solution, 2 mol of AgCl was precipitated. The formula of the compound is:

- (a) $[\text{Co}(\text{NH}_3)_5\text{Cl}_2]\text{Cl}$
- (b) $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{Cl}_2$
- (c) $[\text{Co}(\text{NH}_3)_4\text{Cl}_2](\text{NH}_3)\text{Cl}$
- (d) $[\text{Co}(\text{NH}_3)_3\text{Cl}_3](\text{NH}_3)_2$

(13) The absorption maxima of several octahedral complex ions are as follows:

S.No	Compound	λ_{max} nm
1	$[\text{Co}(\text{NH}_3)_6]^{3+}$	475
2	$[\text{Co}(\text{CN})_6]^{3-}$	310
3	$[\text{Co}(\text{H}_2\text{O})_6]^{3+}$	490

The crystal field splitting is maximum for :

- (a) $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$
- (b) $[\text{Co}(\text{CN})_6]^{3-}$
- (c) $[\text{Co}(\text{NH}_3)_6]^{3+}$

- (d) All the complex ions have the same splitting, Δ_o ,
- (14) Predict the number of ions produced per formula unit in an aqueous solution of $[\text{Co}(\text{en})_3]\text{Cl}_3$
- (a) 4
 (b) 3
 (c) 6
 (d) 2
- (15) The incorrect statement about LDP is:
- (a) It is obtained through the free radical addition of ethene.
 (b) It consists of linear molecules.
 (c) It is obtained by the H-atom abstraction.
 (d) Peroxide is used as an initiator.

Questions 16 to 20 :

- (A) Both assertion and reason are correct statements, and reason is the correct explanation of the assertion.
 (B) Both assertion and reason are correct statements, but reason is not the correct explanation of the assertion.
 (C) Assertion is correct, but reason is wrong statement.
 (D) Assertion is wrong, but reason is correct statement.

16. Assertion: The two strands in double strand helix structure of DNA are complementary to each other

Reason: Disulphide bonds are formed between specific pairs of bases

17. Assertion: Glucose reacts with hydroxylamine to form an oxime and also adds a molecule of hydrogen cyanide to give cyanohydrin.

Reason: The carbonyl group is present in the open chain structure of glucose.

18. Assertion: The acidic strength of halogen acids varies in the order $\text{HF} > \text{HCl} > \text{HBr} > \text{HI}$

Reason: The bond dissociation enthalpy of halogen acids decreases in the order

19. **Assertion:** $\text{C}_2\text{H}_5\text{OH}$ is a weaker base than phenol but is a stronger nucleophile than phenol. (1)

Reason: In phenol the lone pair of electrons on oxygen is withdrawn towards the ring due to resonance.

20. **Assertion: Aryl halides undergo nucleophilic substitution reactions with ease.**

Reason: The carbon halogen bond in aryl halides has partial double bond character.

SECTION : B

21. Calculate the number of lone pairs on central atom in the following molecule and predict the geometry.

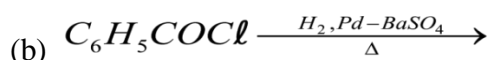


22. The rate of a reaction depends upon the temperature and is quantitatively expressed as

$$k = A e^{-E_a/RT}$$

- i) If a graph is plotted between $\log k$ and $1/T$, write the expression for the slope of the reaction?
- ii) If at under different conditions E_{a1} and E_{a2} are the activation energy of two reactions. If $E_{a1} = 40 \text{ J/mol}$ and $E_{a2} = 80 \text{ J/mol}$. Which of the two has a larger value of the rate constant?
23. The experimentally determined molar mass for what type of substances is always lower than the true value when water is used as solvent. Explain. Give one example of such a substance and one example of a substance which does not show a large variation from the true value.

24. **Write structure of the products formed:**



25. Draw one of the geometrical isomers of the complex $[\text{Pt}(\text{en})_2\text{Cl}_2]^{2+}$ which is optically inactive. Also write the name of this entity according to the IUPAC nomenclature.

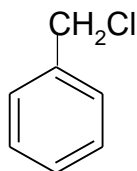
OR

Discuss the bonding in the coordination entity $[\text{Co}(\text{NH}_3)_6]^{3+}$ on the basis of valence bond theory. Also, comment on the geometry and spin of the given entity. (Atomic no. of Co = 27)

26. What is meant by Vapour phase refining? Write any one example of the process which illustrates this technique, giving the chemical equations involved.

OR

- Write and explain the reactions involved in the extraction of gold.
27. Which one of the following compounds will undergo hydrolysis at a faster rate by S_N1 mechanism? Justify.



or $CH_3CH_2CH_2Cl$

SECTION: C

28. Calculate the freezing point of a solution containing 0.5 g KCl (Molar mass = 74.5 g/mol) dissolved in 100 g water, assuming KCl to be 92% ionized.
 K_f of water = 1.86 K kg / mol.
29. For the reaction $A + B \rightarrow$ products, the following initial rates were obtained at various given initial concentrations

S.No.	[A] mol / L	[B] mol / L	Initial rate M/s
1.	0.1	0.1	0.05
2.	0.2	0.1	0.10
3.	0.1	0.2	0.05

Determine the half-life period.

OR

A first order reaction is 50 % complete in 50 minutes at 300 K and the same reaction is again 50 % complete in 25 minutes at 350 K. Calculate activation energy of the reaction.

30. Answer the following questions:
- (a) Which of the following electrolytes is most effective for the coagulation of AgI/Ag^+ sol?
 a. $MgCl_2$, K_2SO_4 , $K_4[Fe(CN)_6]$
- (b) What happens when a freshly precipitated $Fe(OH)_3$ is shaken with a little amount of dilute solution of $FeCl_3$.
- (c) Out of sulphur sol and proteins, which one forms macromolecular colloids?
31. Account for the following:
- a) Moist SO_2 decolourises $KMnO_4$ solution.

- b) In general interhalogen compounds are more reactive than halogens (except fluorine).
- c) Ozone acts as a powerful oxidizing agent
32. Identify the product formed when propan-1-ol is treated with Conc. H_2SO_4 at 413 K . Write the mechanism involved for the above reaction.
33. (a) Give chemical tests to distinguish between the following pairs of compounds:
- (i) Ethanal and Propanone.
- (ii) Pentan-2-one and Pentan-3-one.
- (b) Arrange the following compounds in increasing order of their acid strength: Benzoic acid, 4- Nitrobenzoic acid, 3,4-Dinitrobenzoic acid, 4- Methoxybenzoic acid.

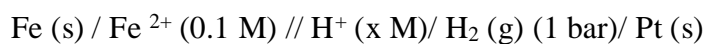
OR

Compare the reactivity of benzaldehyde and ethanal towards nucleophilic addition reactions. Write the cross aldol condensation product between benzaldehyde and ethanal.

34. Define and write an example for the following :
- (a) Broad spectrum antibiotics.
- (b) Analgesics

SECTION: D

35. (a) The e.m.f. of the following cell at 298 K is 0.1745 V



$$\text{Given : } E_{\text{Fe}^{2+}/\text{Fe}}^0 = -0.44\text{V}$$

Calculate the H^+ ions concentration of the solution at the electrode where hydrogen is being produced.

- (b) Aqueous solution of copper sulphate and silver nitrate are electrolysed by 1 ampere current for 10 minutes in separate electrolytic cells. Will the mass of copper and silver deposited on the cathode be same or different? Explain your answer.

OR

- (a) Calculate the degree of dissociation of 0.0024 M acetic acid if conductivity of this solution is $8.0 \times 10^{-5} \text{ S cm}^{-1}$.

$$\text{Given } \lambda_{H^+}^{\circ} = 349.6 \text{ S cm}^2 \text{ mol}^{-1}; \lambda_{CH_3COO^-}^{\circ} = 40.9 \text{ S cm}^2 \text{ mol}^{-1}$$

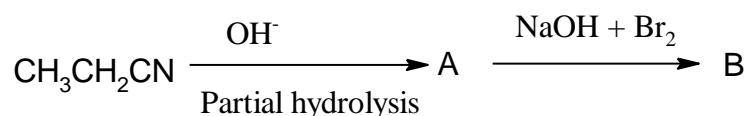
- (b) Solutions of two electrolytes 'A' and 'B' are diluted. The limiting molar conductivity of 'B' increases to a smaller extent while that of 'A' increases to a much larger extent comparatively. Which of the two is a strong electrolyte? Justify your answer.
36. An organic compound A' with molecular formula C_7H_7NO reacts with $Br_2/aqKOH$ to give compound B', which upon reaction with $NaNO_2 \& HCl$ at $0^{\circ}C$ gives C'. Compound C' on heating with CH_3CH_2OH gives a hydrocarbon D'. Compound B' on further reaction with Br_2 water gives white precipitate of compound E'. Identify the compound A, B, C, D&E; also justify your answer by giving relevant chemical equations.

OR

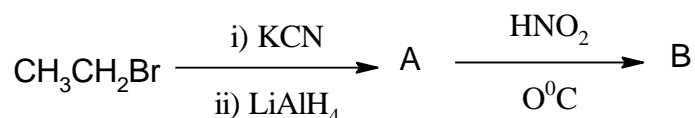
- (a) How will you convert:
- Aniline into Fluorobenzene.
 - Benzamide into Benzylamine.
 - Ethanamine to N,N-Diethylethanamine.

- (b) Write the structures of A and B in the following:

i)



ii)



37. (a) When a chromite ore (A) is fused with an aqueous solution of sodium carbonate in free excess of air, a yellow solution of compound (B) is obtained. This solution is filtered and acidified with sulphuric acid to form compound (C). Compound (C) on treatment with solution of KCl gives orange crystals of compound (D). Write the chemical formulae of compounds A to D.
- (b) Describe the cause of the following variations with respect to lanthanoids and actinoids:
- Greater range of oxidation states of actinoids as compared to lanthanoids.

- (ii) Greater actinoid contraction as compared to lanthanoid contraction.
- (iii) Lower ionisation enthalpy of early actinoids as compared to the early lanthanoids.

OR

(a) What happens when

- (i) Manganate ions (MnO_4^{2-}) undergoes disproportionation reaction in acidic medium?
- (ii) Lanthanum is heated with Sulphur?

(b) Explain the following trends in the properties of the members of the First series of transition elements:

- (i) $E^\circ(M^{2+}/M)$ value for copper is positive(+0.34 V) in contrast to the other members of the series.
- (ii) Cr^{2+} is reducing while Mn^{3+} is oxidising, though both have d^4 configuration.
- (iii) The oxidising power in the series increases in the order $VO_2^+ < Cr_2O_7^{2-} < MnO_4^-$.

COMPUTER SCIENCE - NEW (083)
MARKING SCHEME – SQP (2019-20)
CLASS- XII

Max. Marks: 70

Time: 3 hrs

General Instructions:

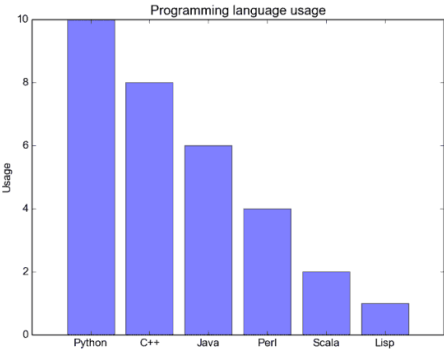
- All questions are compulsory.
- Question paper is divided into 4 sections A, B, C and D.
 - Section A : Unit-1
 - Section B : Unit-2
 - Section C: Unit-3
 - Section D: Unit-4

SECTION-A			
Q1.	(a)	Which of the following is valid arithmetic operator in Python: (i) // (ii) ? (iii) < (iv) and	1
	Ans.	(i) // (1 mark for correct answer)	
	(b)	Write the type of tokens from the following: (i) if (ii) roll_no	1
	Ans.	(i) Key word (ii) Identifier (1/2 mark for each correct type)	
	(c)	Name the Python Library modules which need to be imported to invoke the following functions: (i) sin() (ii) randint ()	1
	Ans.	(i) math (ii) random (1/2 mark for each module)	
	(d)	Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code. 30=To for K in range(0,To) IF k%4==0: print (K*4) Else: print (K+3)	2
	Ans.	<u>To=30</u> for K in range(<u>0,To</u>): <u>if</u> k%4==0: print (K*4) <u>else</u> : print (K+3) (1/2 mark for each correction)	
	(e)	Find and write the output of the following python code: def fun(s): k=len(s)	2

		<pre> m="" for i in range(0,k): if(s[i].isupper()): m=m+s[i].lower() elif s[i].isalpha(): m=m+s[i].upper() else: m=m+'bb' print(m) </pre>	
	Ans.	SCHOOLbbbbCOM (2 marks for correct output) Note: Partial marking can also be given	
	(f)	Find and write the output of the following python code: <pre> def Change(P ,Q=30): P=P+Q Q=P-Q print(P,"#",Q) return (P) </pre> <p>R=150 S=100 R=Change(R,S) print(R,"#",S) S=Change(S)</p>	3
	Ans.	250 # 150 250 # 100 130 # 100 (1 mark each for correct line)	
	(g)	What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables FROM and TO. <pre> import random AR=[20,30,40,50,60,70]; FROM=random.randint(1,3) TO=random.randint(2,4) for K in range(FROM,TO+1): print (AR[K],end="#" ") </pre> <p>(i) 10#40#70# (ii) 30#40#50#</p>	2

		(iii) 50#60#70# (iv) 40#50#70#	
	Ans.	(ii) 30#40#50# Maximum value FROM,TO is 3,4 (1/2 mark each for maximum value) (1 mark for correct option)	
Q2.	(a)	What do you understand by the term Iteration?	1
	Ans.	Repeation of statement/s finite number of times is known as Iteration. (1 mark for correct answer)	
	(b)	Which is the correct form of declaration of dictionary? (i) Day={1:'monday',2:'tuesday',3:'wednesday'} (ii) Day=(1:'monday',2:'tuesday',3:'wednesday') (iii) Day=[1:'monday',2:'tuesday',3:'wednesday'] (iv) Day={1'monday',2'tuesday',3'wednesday'}	1
	Ans.	(i) Day={1:'monday',2:'tuesday',3:'wednesday'} (1 mark for correct answer)	
	(c)	Identify the valid declaration of L: L = [1, 23, 'hi', 6]. (i) list (ii) dictionary (iii) array (iv) tuple	1
	Ans.	(i) List (1 mark for correct answer)	
	(d)	Find and write the output of the following python code: x = "abcdef" i = "a" while i in x: print(i, end = " ")	1
	Ans.	aaaaa----- OR infinite loop (1 mark for correct answer)	
	(e)	Find and write the output of the following python code: a=10 def call(): global a a=15 b=20 print(a) call()	1
	Ans.	15	

		(1 mark for correct answer)	
	(f)	What do you understand by local and global scope of variables? How can you access a global variable inside the function, if function has a variable with same name.	2
	Ans.	<p>A global variable is a variable that is accessible globally. A local variable is one that is only accessible to the current scope, such as temporary variables used in a single function definition.</p> <p>A variable declared outside of the function or in global scope is known as global variable. This means, global variable can be accessed inside or outside of the function where as local variable can be used only inside of the function. We can access by declaring variable as global A.</p> <p>(1 mark for correct difference)</p> <p>(1 mark for explanation)</p>	
	(g)	<p>A bar chart is drawn(using pyplot) to represent sales data of various models of cars, for a month. Write appropriate statements in Python to provide labels Month - June and Sale done to x and y axis respectively.</p> <p style="text-align: center;">OR</p> <p>Give the output from the given python code:</p> <pre>import matplotlib.pyplot as plt; plt.rcParams() import numpy as np import matplotlib.pyplot as plt objects = ('Python', 'C++', 'Java', 'Perl', 'Scala', 'Lisp') y_pos = np.arange(len(objects)) performance = [10,8,6,4,2,1] plt.bar(y_pos, performance, align='center', alpha=0.5) plt.xticks(y_pos, objects) plt.ylabel('Usage') plt.title('Programming language usage') plt.show()</pre>	2
	Ans.	<pre>import matplotlib.pyplot as plt import numpy as np model=('i20','Grandi10','Creta','Eon','Verna','Tucson','Elantra') y_pos=np.arange(len(model)) sale=[12369,12174,9390,4663,4077,3712,200,150] plt.bar(y_pos,sale,align='center',alpha=0.5) plt.xticks(y_pos,model) plt.xlabel('Month-June') plt.ylabel('Sale done') plt.title('Sales Bar Graph') plt.show()</pre>	

	<p>(1/2 mark for correct plt.bar) (1/2 mark for each correct xlabel and ylabel) (1/2 mark for plt.show)</p> <p style="text-align: center;">OR</p>  <p style="text-align: center;">(2 marks for correct output)</p>	
(h)	<p>Write a function in python to count the number of lines in a text file 'STORY.TXT' which is starting with an alphabet 'A' .</p> <p style="text-align: center;">OR</p> <p>Write a method/function DISPLAYWORDS() in python to read lines from a text file STORY.TXT, and display those words, which are less than 4 characters.</p>	2
Ans.	<pre>def COUNTLINES(): file=open('STORY.TXT','r') lines = file.readlines() count=0 for w in lines: if w[0]=="A" or w[0]=="a": count=count+1 print("Total lines ",count) file.close()</pre> <p><i>(½ Mark for opening the file)</i> <i>(½ Mark for reading all lines, and using loop)</i> <i>(½ Mark for checking condition)</i> <i>(½ Mark for printing lines)</i></p> <p style="text-align: center;">OR</p> <pre>def DISPLAYWORDS(): c=0 file=open('STORY.TXT','r') line = file.read()</pre>	

	<pre>word = line.split() for w in word: if len(w)<4: print(w) file.close() </pre> <p>(½ Mark for opening the file) (½ Mark for reading line and/or splitting) (½ Mark for checking condition) (½ Mark for printing word)</p>	
(i)	<p>Write a Recursive function in python BinarySearch(Arr,I,R,X) to search the given element X to be searched from the List Arr having R elements where I represents lower bound and R represents upper bound.</p> <p style="text-align: center;">OR</p> <p>Write a Recursive function recurfactorial(n) in python to calculate and return the factorial of number n passed to the parameter.</p>	3
Ans.	<pre>def BinarySearch (Arr,I,R,X): if R >= I: mid = I + (R-I)//2 if Arr[mid] == X: return mid elif Arr[mid] > X: return BinarySearch(Arr,I,mid-1,X) else: return BinarySearch(Arr,mid+1,r,X) else: return -1 Arr = [2, 3, 4, 10, 40] X =int(input(' enter element to be searched')) result = BinarySearch(Arr,0,len(Arr)-1,X) if result != -1: print ("Element is present at index ", result) else: print ("Element is not present in array") </pre> <p>(1/2 mark for mid)</p>	

	<p>(1/2 mark for return mid)</p> <p>(1 mark each for returning function)</p> <p>(1 mark for invoking function)</p> <p style="text-align: center;">OR</p> <pre>def recurfactorial(n): if n == 1: return n else: return n*recurfactorial(n-1) num = int(input("Enter a number: ")) if num < 0: print("Sorry, factorial does not exist for negative numbers") elif num == 0: print("The factorial of 0 is 1") else: print("The factorial of",num,"is",recurfactorial(num))</pre> <p>(2 marks for correct recursive function)</p> <p>(1 mark for invoking)</p>	
(j)	<p>Write a function in Python, INSERTQ(Arr,data) and DELETEQ(Arr) for performing insertion and deletion operations in a Queue. Arr is the list used for implementing queue and data is the value to be inserted.</p> <p style="text-align: center;">OR</p> <p>Write a function in python, MakePush(Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure.</p>	4
Ans.	<pre>def INSERTQ(Arr): data=int(input("enter data to be inserted: ")) Arr.append(data) def DELETEQ(Arr): if (Arr==[]): print("Queue empty") else: print ("Deleted element is: ",Arr[0]) del(Arr[0])</pre> <p>(½ mark insert header)</p> <p>(½ mark for accepting a value from user)</p> <p>(½ mark for adding value in list)</p> <p>(½ mark for delete header)</p> <p>(½ mark for checking empty list condition)</p>	

	<p><i>(½ mark for displaying "Queue empty")</i> <i>(½ mark for displaying the value to be deleted)</i> <i>(½ mark for deleting value from list)</i></p> <p style="text-align: center;">OR</p> <pre>def MakePush(Package): a=int(input("enter package title : ")) Package.append(a) def MakePop(Package): if (Package==[]): print("Stack empty") else: print ("Deleted element:",Package.pop())</pre> <p><i>(½ mark for MakePush() header)</i> <i>(½ mark for accepting a value from user)</i> <i>(½ mark for adding value in list)</i> <i>(½ mark for MakePop() header)</i> <i>(½ mark for checking empty list condition)</i> <i>(½ mark for displaying "Stack empty")</i> <i>(½ mark for displaying the value to be deleted)</i> <i>(½ mark for deleting value from list)</i></p>	
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SECTION-B

Q.3	Questions 3 (a) to 3 (c) : Fill in the blanks	
	(a)is an example of Public cloud.	1
	Ans. Google Drive or any other correct example (1 mark for correct answer)	
	(b) is a network of physical objects embedded with electronics, software, sensors and network connectivity.	1
	Ans. The internet of things OR Internet (1 mark for correct answer)	
	(c) ----- is a device that forwards data packets along networks.	1
	Ans. Router (1 mark for correct answer)	
	(d) ----- describes the maximum data transfer rate of a network or Internet connection.	1
	Ans. Band width (1 mark for correct answer)	
	(e) Give the full forms of the following	2

		<ul style="list-style-type: none"> (i) HTTP (ii) FTP (iii) VoIP (iv) SSH 			
	Ans.	<ul style="list-style-type: none"> (i) Hyper text transfer protocol (ii) File transfer protocol (iii) Voice over internet protocol (iv) Secure shell <p>(1/2 mark for each correct expansion)</p>			
	(f)	How many pair of wires are there in twisted pair cable(Ethernet)?What is the name of port ,which is used to connect Ethernet cable to a computer or a labtop?	2		
	Ans.	Two insulated copper wires , Ethernet port (1 mark for each correct Answer)			
	(g)	Identify the type of cyber crime for the following situations: <ul style="list-style-type: none"> (i) A person complains that Rs. 4.25 lacs have been fraudulently stolen from his/her account online via some online transactions in two days using NET BANKING. (ii) A person complaints that his/her debit/credit card is safe with him still some body has done shopping/ATM transaction on this card. (iii) A person complaints that somebody has created a fake profile on Facebook and defaming his/her character with abusive comments and pictures. 	3		
	Ans.	<ul style="list-style-type: none"> (i) Bank Fraud (ii) Identity Theft (iii) Cyber Stalking <p>(1 mark for each correct answer)</p>			
	(h)	Software Development Company has set up its new center at Raipur for its office and web based activities. It has 4 blocks of buildings named Block A, Block B, Block C, Block D.	4		
		Number of Computers			
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">Block A</td> <td style="padding: 5px;">25</td> </tr> </table>	Block A	25	
Block A	25				

Block B	50
Block C	125
Block D	10

Shortest distances between various Blocks in meters:

Block A to Block B	60 m
Block B to Block C	40 m
Block C to Block A	30 m
Block D to Block C	50 m

(i) Suggest the most suitable place (i.e. block) to house the server of this company with a suitable reason.

Ans. Block C , It has maximum number of computer.
(1 mark for correct answer)

(ii) Suggest the type of network to connect all the blocks with suitable reason .

Ans. LAN
(1 mark for correct answer)

(iii)The company is planning to link all the blocks through secure and high-speed wired medium. Suggest a way to connect all the blocks.

Ans. Star topology
OR Diagram
(1 mark for correct answer)

(iv) Suggest the most suitable wired medium for efficiently connecting each computer installed in every block out of the following network cables:

- Coaxial Cable
- Ethernet Cable
- Single Pair Telephone Cable.

Ans. Ethernet Cable
(1 mark for correct answer)

SECTION-C

Q.4	(a)	Which key word is used to sort the records of a table in descending order?	1
	Ans.	DESC (1 mark for correct answer)	

	(b)	Which clause is used to sort the records of a table?	1
	Ans.	ORDER BY (1 mark for correct answer)	
	(c)	Which command is used to modify the records of the table?	1
	Ans.	UPDATE (1 mark for correct answer)	
	(d)	Which clause is used to remove the duplicating rows of the table?	1
	Ans.	DISTINCT (1 mark for correct answer)	
	(e)	Differentiate between Primary key and Candidate key. OR Differentiate between Degree and Cardinality.	2
	Ans.	A Candidate Key can be any column or a combination of columns that can qualify as unique key in database. There can be multiple Candidate Keys in one table where as A Primary Key is a column or a combination of columns that uniquely identify a record. Only one Candidate Key can be Primary Key. (2 marks for correct difference) OR Degree : It is the total number of attributes in the table. Cardinality: It is the total number of tuples in the table (2 marks for correct difference)	
	(f)	Differentiate between Django GET and POST method.	2
	Ans.	GET and POST. GET and POST are the only HTTP methods to use when dealing with forms. Django's login form is returned using the POST method, in which the browser bundles up the form data, encodes it for transmission, sends it to the server, and then receives back its response. Both of these are dictionary-like objects that give you access to GET and POST data. POST data generally is submitted from an HTML <form> , while GET data can come from a <form> or the query string in the page's URL. (2 Marks for correct difference)	
	(g)	Write a output for SQL queries (i) to (iii), which are based on the table: STUDENT given below: Table : STUDENT	3

RollNo	Name	Class	DOB	Gender	City	Marks
1	Nanda	X	06-06-1995	M	Agra	551
2	Saurabh	XII	07-05-1993	M	Mumbai	462
3	Sanal	XI	06-05-1994	F	Delhi	400
4	Trisla	XII	08-08-1995	F	Mumbai	450
5	Store	XII	08-10-1995	M	Delhi	369
6	Marisla	XI	12-12-1994	F	Dubai	250
7	Neha	X	08-12-1995	F	Moscow	377
8	Nishant	X	12-06-1995	M	Moscow	489

(i) SELECT COUNT(*), City FROM STUDENT GROUP BY CITY HAVING COUNT(*)>1;

Ans. COUNT(*) City
 2 Mumbai
 2 Delhi
 2 Moscow

(1 mark for correct output)

(ii) SELECT MAX(DOB),MIN(DOB) FROM STUDENT;

Ans. MAX(DOB) MIN(DOB)
 08-12-1995 07-05-1993

(1 mark for correct output)

(iii) SELECT NAME,GENDER FROM STUDENT WHERE CITY="Delhi";

Ans. NAME GENDER
 Sanal F
 Store M

(1 mark for correct output)

(h) Write SQL queries for (i) to (iv), which are based on the table: **STUDENT** given in the question 4(g):

(i) To display the records from table student in alphabetical order as per the name of the student.

Ans. SELECT * FROM STUDENT ORDER BY NAME;

(1 mark for correct statement)

(ii) To display Class, Dob and City whose marks is between 450 and 551.

Ans. SELECT CLASS,DOB,CITY FROM STUDENT WHERE MARKS
 BETWEEN 450 AND 551;

(1 mark for correct statement)

4

		<p>(iii) To display Name, Class and total number of students who have secured more than 450 marks, class wise.</p> <p>Ans. SELECT NAME,CLASS ,COUNT(*) FROM STUDENT GROUP BY CLASS HAVING MARKS>450;</p> <p>(1 mark for correct statement)</p> <p>(iv) To increase marks of all students by 20 whose class is "XII".</p> <p>Ans. UPDATE STUDENT SET MARKS=MARKS+20 where class="XII";</p> <p>(1 mark for correct statement)</p>	
SECTION-D			
Q.5	(a)	It is an internet service for sending <u>written</u> messages electronically from one <u>computer</u> to another. Write the service name.	1
	Ans.	e-mail (1 mark for correct answer)	
	(b)	As a citizen of india , What advise you should give to others for e-waste disposal?	1
	Ans.	As a citizen of india , We can advice the following principle of waste management: Reduce , Reuse and Recycle. (1 mark for correct answer)	
	(c)	What can be done to reduce the risk of identity theft? Write any two ways.	2
	Ans.	1. Don't Give out Personal Information to anyone 2. Don't Carry Your Social Security Card. (1 mark for each point)	
	(d)	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>From: Internal Revenue Service [mailto:admin@irs.gov] Sent: Wednesday, March 01, 2006 12:45 PM To: john.doe@jdoe.com Subject: IRS Notification - Please Read This .</p> <hr/> <p>After the last annual calculations of your fiscal activity we have determined that you are eligible to receive a tax refund of \$63.80. Please submit the tax refund request and allow us 6-9 days in order to process it.</p> <p>A refund can be delayed for a variety of reasons. For example submitting invalid records or applying after the deadline.</p> <p>To access the form for your tax refund, please click here</p> </div> <p>Ravi received a mail form IRS department (as shown above). On clicking " Click-Here" ,he was taken to a site designed to imitate an official-looking website, such as IRS.gov. He uploaded some important information on it.</p> <p>Identify and explain the cyber crime being discussed in the above scenario.</p>	2

	Ans.	It is an example of phishing. phishing is a term used to describe a malicious individual or group of individuals who scam users. They do so by sending e-mails or creating web pages that are designed to collect an individual's online bank, credit card, or other login information. (1 mark for identification) (1 mark for explanation)	
	(e)	Differentiate between open source and open data.	2
	Ans.	These licenses are based on the copyright protection of the code; thus, the "open" of open source refers to the source code. Difference between open data and open source is that of data versus application. Data can be numbers, locations, names, etc. (2 Marks for correct difference)	
	(f)	Enumerate any two disability issues while teaching and using computers.	2
	Ans.	There are several types of disabilities that can affect computer accessibility. Although there is no single universally accepted classification, an indicative list of impairments includes the following :Visual impairments: blindness, low vision and color blindness. (1 mark for each point)	

**COMPUTER SCIENCE – NEW (083)
SAMPLE QUESTION PAPER (2019-20)
CLASS- XII**

Max. Marks: 70

Time: 3 hrs

General Instructions:

- All questions are compulsory.
- Question paper is divided into 4 sections A, B, C and D.
 - Section A : Unit-1
 - Section B : Unit-2
 - Section C: Unit-3
 - Section D: Unit-4

SECTION-A			
Q1.	(a)	Which of the following is valid arithmetic operator in Python: (i) // (ii) ? (iii) < (iv) and	1
	(b)	Write the type of tokens from the following: (i) if (ii) roll_no	1
	(c)	Name the Python Library modules which need to be imported to invoke the following functions: (i) sin() (ii) randint ()	1
	(d)	Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code. 30=To for K in range(0,To) IF k%4==0: print (K*4) Else: print (K+3)	2
	(e)	Find and write the output of the following python code: def fun(s): k=len(s) m="" for i in range(0,k): if(s[i].isupper()): m=m+s[i].lower() elif s[i].isalpha(): m=m+s[i].upper() else: m=m+'bb' print(m) fun('school2@com')	2
	(f)	Find and write the output of the following python code:	3

		<pre>def Change(P ,Q=30): P=P+Q Q=P-Q print(P,"#",Q) return (P) R=150 S=100 R=Change(R,S) print(R,"#",S) S=Change(S)</pre>	
	(g)	<p>What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables FROM and TO.</p> <pre>import random AR=[20,30,40,50,60,70]; FROM=random.randint(1,3) TO=random.randint(2,4) for K in range(FROM,TO+1): print (AR[K],end=" #")</pre> <p>(i) 10#40#70# (ii) 30#40#50# (iii) 50#60#70# (iv) 40#50#70#</p>	2
Q2.	(a)	What do you understand by the term Iteration?	1
	(b)	<p>Which is the correct form of declaration of dictionary?</p> <p>(i) Day={1:'monday',2:'tuesday',3:'wednesday'} (ii) Day=(1;'monday',2;'tuesday',3;'wednesday') (iii) Day=[1:'monday',2:'tuesday',3:'wednesday'] (iv) Day={1'monday',2'tuesday',3'wednesday'}</p>	1
	(c)	<p>Identify the valid declaration of L: L = [1, 23, 'hi', 6].</p> <p>(i) list (ii) dictionary (iii) array (iv) tuple</p>	1
	(d)	<p>Find and write the output of the following python code:</p> <pre>x = "abcdef" i = "a" while i in x: print(i, end = " ")</pre>	1

	<p>(e) Find and write the output of the following python code:</p> <pre> a=10 def call(): global a a=15 b=20 print(a) call() </pre>	1
	<p>(f) What do you understand by local and global scope of variables? How can you access a global variable inside the function, if function has a variable with same name.</p>	2
	<p>(g) A bar chart is drawn(using pyplot) to represent sales data of various models of cars, for a month. Write appropriate statements in Python to provide labels Month - June and Sale done to x and y axis respectively.</p> <p style="text-align: center;">OR</p> <p>Give the output from the given python code:</p> <pre> import matplotlib.pyplot as plt; plt.rcParams() import numpy as np import matplotlib.pyplot as plt objects = ('Python', 'C++', 'Java', 'Perl', 'Scala', 'Lisp') y_pos = np.arange(len(objects)) performance = [10,8,6,4,2,1] plt.bar(y_pos, performance, align='center', alpha=0.5) plt.xticks(y_pos, objects) plt.ylabel('Usage') plt.title('Programming language usage') plt.show() </pre>	2
	<p>(h) Write a function in python to count the number of lines in a text file 'STORY.TXT' which is starting with an alphabet 'A' .</p> <p style="text-align: center;">OR</p> <p>Write a method/function DISPLAYWORDS() in python to read lines from a text file STORY.TXT, and display those words, which are less than 4 characters.</p>	2
	<p>(i) Write a Recursive function in python BinarySearch(Arr,I,R,X) to search the given element X to be searched from the List Arr having R elements,where I represents lower bound and R represents the upper bound.</p> <p style="text-align: center;">OR</p>	3

		Write a Recursive function recurfactorial(n) in python to calculate and return the factorial of number n passed to the parameter.	
	(j)	Write a function in Python, INSERTQ(Arr,data) and DELETEQ(Arr) for performing insertion and deletion operations in a Queue. Arr is the list used for implementing queue and data is the value to be inserted. OR Write a function in python, MakePush(Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure.	4
		SECTION-B	
Q.3		Questions 3 (a) to 3 (c) : Fill in the blanks	
	(a)is an example of Public cloud.	1
	(b) is a network of physical objects embedded with electronics, software, sensors and network connectivity.	1
	(c)	----- is a device that forwards data packets along networks.	1
	(d)	----- describes the maximum data transfer rate of a network or Internet connection.	1
	(e)	Give the full forms of the following (i) HTTP (ii) FTP (v) VoIP (vi) SSH	2
	(f)	How many pair of wires are there in twisted pair cable(Ethernet)?What is the name of port ,which is used to connect Ethernet cable to a computer or a labtop?	2
	(g)	Identify the type of cyber crime for the following situations: (i) A person complains that Rs. 4.25 lacs have been fraudulently stolen from his/her account online via some online transactions in two days using NET BANKING. (ii) A person complains that his/her debit/credit card is safe with him still some body has done shopping/ATM transaction on this card. (iii) A person complains that somebody has created a fake profile on Facebook and defaming his/her character with abusive comments and pictures.	3
	(h)	Software Development Company has set up its new center at Raipur for its office and web based activities. It has 4 blocks of buildings named Block A, Block B, Block C, Block D. Number of Computers	4

Block A	25
Block B	50
Block C	125
Block D	10

Shortest distances between various Blocks in meters:

Block A to Block B	60 m
Block B to Block C	40 m
Block C to Block A	30 m
Block D to Block C	50 m

- (i) Suggest the most suitable place (i.e. block) to house the server of this company with a suitable reason.
- (ii) Suggest the type of network to connect all the blocks with suitable reason .
- (iii)The company is planning to link all the blocks through a secure and high speed wired medium. Suggest a way to connect all the blocks.
- (iv) Suggest the most suitable wired medium for efficiently connecting each computer installed in every block out of the following network cables:
- Coaxial Cable
 - Ethernet Cable
 - Single Pair Telephone Cable.

SECTION-C

Q.4	(a)	Which key word is used to sort the records of a table in descending order?	1
	(b)	Which clause is used to sort the records of a table?	1
	(c)	Which command is used to modify the records of the table?	1
	(d)	Which clause is used to remove the duplicating rows of the table?	1
	(e)	Differentiate between Primary key and Candidate key. OR Differentiate between Degree and Cardinality.	2
	(f)	Differentiate between Django GET and POST method.	2
	(g)	Write a output for SQL queries (i) to (iii), which are based on the table: STUDENT	3

given below:

Table : **STUDENT**

RollNo	Name	Class	DOB	Gender	City	Marks
1	Nanda	X	06-06-1995	M	Agra	551
2	Saurabh	XII	07-05-1993	M	Mumbai	462
3	Sanal	XI	06-05-1994	F	Delhi	400
4	Trisla	XII	08-08-1995	F	Mumbai	450
5	Store	XII	08-10-1995	M	Delhi	369
6	Marisla	XI	12-12-1994	F	Dubai	250
7	Neha	X	08-12-1995	F	Moscow	377
8	Nishant	X	12-06-1995	M	Moscow	489

- (i) SELECT COUNT(*), City FROM STUDENT GROUP BY CITY HAVING COUNT(*)>1;
- (ii) SELECT MAX(DOB),MIN(DOB) FROM STUDENT;
- (iii) SELECT NAME,GENDER FROM STUDENT WHERE CITY="Delhi";

(h)

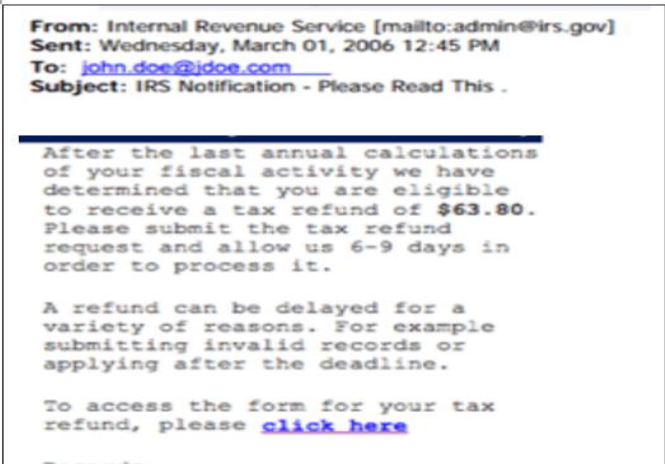
Write SQL queries for (i) to (iv), which are based on the table: **STUDENT** given in the question 4(g):

- (i) To display the records from table student in alphabetical order as per the name of the student.
- (ii) To display Class, Dob and City whose marks is between 450 and 551.
- (iii) To display Name, Class and total number of students who have secured more than 450 marks, class wise
- (iv) To increase marks of all students by 20 whose class is "XII"

4

SECTION-D

Q.5	(a)	It is an internet service for sending <u>written</u> messages electronically from one <u>computer</u> to another. Write the service name.	1
	(b)	As a citizen of india , What advise you should give to others for e-waste disposal?	1
	(c)	What can be done to reduce the risk of identity theft? Write any two ways.	2

(d)	 <p>Ravi received a mail form IRS department (as shown above). On clicking “ Click-Here” ,he was taken to a site designed to imitate an official-looking website, such as IRS.gov. He uploaded some important information on it.</p> <p>Identify and explain the cybercrime being discussed in the above scenario.</p>	2
(e)	Differentiate between open source and open data.	2
(f)	Enumerate any two disability issues while teaching and using computers	2

Marking Scheme
SECTION - A (Macro Economics)

Ques. No	Description	Marks
1	Decreases	1
2	An intermediate good refers to that good which is purchased during the year by a firm from another for the purpose of further production/resale.	1
3	b) Zero	1
4	i) CRR, ii) SLR, iii) Bank Rate, iv) Repo rate, v) Reverse repo rate (any two) Or Demand deposits are the deposits which can be withdrawn on demand by the depositors from banks.	½+ ½ 1
5	a) price stability in the economy.	1
6	Zero	1
7	True	1
8	Primary Deficit = Fiscal Deficit - Interest Payments	1
9	c) Remittances to relative staying abroad - (iii) Debit side of current Account of Balance of Payments	1
10	Revenue	1
11	Generally it is considered that an increase in the Gross Domestic Product (GDP) of any economy (India in this case) ensures increase in welfare of the people of the country. However, this may not always be correct. Some of the prime reasons for the same are: a) unequal distribution and composition of GDP, b) non-monetary transactions in the economy which are not accounted for in GDP, and c) occurrence of externalities in the economy (both positive and negative).	3
12	We know that consumption function is: $C = \bar{c} + MPC \cdot Y$ At equilibrium level of Income in the economy $Y = C + I$ Given, Autonomous Consumption (\bar{C}) = ₹ 500 crores and Ex-ante Investments (I) = ₹ 4000 crores $18,000 = 500 + MPC(18,000) + 4,000$ $MPC(18,000) = 18000 - 4500$ $MPC = 13,500/18,000$ $MPC = 0.75$ Or $MPS = \left(\frac{\text{Change in Savings}}{\text{Change in Income}}\right) = \left(\frac{\Delta S}{\Delta Y}\right) = \frac{20}{100} = 0.20$ Investment Multiplier (K) = $\frac{1}{MPS} = \frac{1}{0.20} = 5$ Investment Multiplier (K) = $\frac{\text{Change in Income}}{\text{Change in Investment}} = \left(\frac{\Delta y}{\Delta I}\right)$ $5 = \frac{\text{Change in Investment}}{\text{Change in Investment } (\Delta I)}$ Change in Investment (ΔI) = ₹ 1200 crores Increase in investment by ₹ 1200 crores is required to attain additional income of ₹ 6000 crores.	½ ½ ½ ½ ½ ½ 1 ½ ½ ½ ½

13	<p>Central Bank as government's bank - The Central Bank acts as a banker to both central as well as state governments. The Central Bank accepts receipts and makes payments for the government and carries out exchange, remittance and other banking operations. It advances credit/loan to the government to meet its requirements in case of crisis. It also acts as an agent to buy and sell government securities & advises the government on various financial matters.</p> <p style="text-align: center;">Or</p> <p>Open Market Operations by Central Bank - Open Market Operations refers to buying and selling of government securities (bonds) by the Central Bank from/to the general public. It is an important step which may be undertaken to control money supply in the economy. The Central Bank may sell government securities to reduce the money supply in the hands of general public and vice-versa.</p>	4 4
14	<p>Selling of securities by Foreign Institutional Investors (FII's) in Indian capital market will lead to fall in the supply of foreign currency in the economy. This situation might lead to excess demand of foreign currency at the prevailing foreign exchange rate.</p> <p>As a result, a new equilibrium rate of foreign exchange will be determined which will be higher than the prevailing foreign exchange rate, leading to depreciation of domestic currency.</p> <p style="text-align: center;">Or</p> <p>Investments by large multinational corporations (MNCs) in India will ensure greater inflow of foreign exchange, leading to an increase in the supply of foreign currency. This situation may result into excess supply of foreign currency in the economy at the prevailing foreign exchange rate.</p> <p>As a result, a new equilibrium rate of foreign exchange will be determined which will be lower than the prevailing foreign exchange rate, leading to appreciation of domestic currency.</p>	4 4
15	<p>Reallocation of resources - Government through its budgetary policies tries to reallocate resources to ensure fulfillment of various socio-economic objectives. The government may influence the allocation of resources through:</p> <p>(a) Taxation policy - Heavy taxes may be imposed on harmful products to discourage their production and subsidies may be provided on the production of socially useful products to encourage their production.</p> <p>b) Government may directly undertake production of certain goods and services in the areas where private sector may not be willing to participate in production activities.</p>	4
16	<p>a) The given statement is correct. Real Gross Domestic Product (GDP) is a better indicator of economic growth than Nominal Gross Domestic Product (GDP) as it is not affected by changes in general price level.</p> <p>Numerical Example:</p>	1

Goods	Price of Current Year (P ₁) (in ₹)	Price of Base Year (P ₀) (in ₹)	Quantity of Current Year (Q ₁) (in units)	Nominal GDP (P ₁ Q ₁)	Real GDP (P ₀ Q ₁)	
A	20	10	100	2,000	1,000	
B	10	5	200	2,000	1,000	
C	30	20	50	1,500	1,000	
				∑P ₁ Q ₁ =5,500	∑P ₀ Q ₁ =3,000	

In the above example the difference between Real GDP (∑P₀Q₁) and Nominal GDP (∑P₁Q₁) is 5,500-3,000 = ₹2,500. This is only the monetary difference as the quantity sold in the market remains unchanged and the variation in the value of GDP is merely due to the change in the prices in the economy.

b)

$$\text{Depreciation on capital asset} = \frac{\text{Cost of the capital asset} - \text{Scrap Value}}{\text{Estimated life of the capital asset}}$$

$$\text{Depreciation} = \frac{1000-0}{20}$$

$$\text{Depreciation} = ₹50 \text{ crores}$$

Or

a) Yes, the given statement is correct. In a two sector economy, the firms produce goods and services and make factors payments to the households. The factor income earned by the households will be used to buy the goods and services which would be equal to income of firms. The aggregate consumption expenditure by the households in the economy is equal to the aggregate expenditure on goods and services produced by the firms in the economy (Income of the producers).

b) Compensation of Employees = (iii) – (v) – (iv) – (vi+ii+i+vii)
= 200 – 50 -10 – (25+45+20+5)
= ₹45 crores.

17

An economy is said to be operating at under employment equilibrium level, if the planned aggregate expenditure falls short of available output in the economy, corresponding to the full employment level. It results into excess of output available over the anticipated aggregate demand at full employment level. To tackle such a situation the aggregate demand has to be increased up to the level that the stocks can be cleared.

Following measures may be taken for the same:

i) **Decrease in taxes:** The government under its fiscal policy may decrease the rate of taxes (both direct and indirect taxes). This will ensure greater purchasing power in the hands of general public. This will help to increase aggregate demand and remove the deflationary gap.

	ii) Increase in money supply: Central bank through its expansionary monetary policy can increase the money supply in the economy. Central bank can use tools like bank rate, cash reserve ratio, repo and reverse repo rates etc. to ensure greater money in the hands of general public which would in turn increase the aggregate demand in the economy and be helpful in reducing/removing the deflationary gap.	2
SECTION-B (Indian Economic Development)		
18	Value added tax, service tax, excise duty, sales tax. (any two correct alternatives)	½ + ½
19	True	1
20	b) iii , iv, i , ii	1
21	d) Credit taken to meet agriculture expenditure.	1
22	Disguised Or Work force participation rate	1
23	Development of small scale industries	1
24	d) ii , iv , i, iii	1
25	Photovoltaic cell	1
26	b) iv, ii, i, iii	1
27	c)1988	1
28	The given statement is quite appropriate. Indian traditional practices were environment friendly and worked as complementary to the system and not its controller. The traditional agriculture system, healthcare system, housing, transport etc. were intrinsically environment friendly. The traditional practices used natural products and processes which are more or less free from side effects. For example by adopting medicinal plants/products we can conserve the resources and achieve the objective of sustainable development. Or The given statement states about the insufficiency of the installed capacity of production of power in India. If the Indian economy wants to touch the GDP growth rate between 7-8% it must target to produce electricity with a growth rate of 7% which is not possible with the present production capacity in the power sector. Thus, we need to work in two directions to improve installed capacity: i. increased investments (by both public and private players) in the power generation sector. ii. better utilization of the present infrastructure.	3 3
29	Investment in education system in India has been a woeful failure. The fact of the matter is that, in 1952 we were spending a meager 0.6% of our GDP on education that rose to only 4% in 2014. This has fallen well short of 6% target as proposed by the Education Commission, 1964. Moreover, throughout this period the increase in education expenditure has not been uniform and there has been irregular rise and fall. This shows the apathy of the government towards investment in the education system. One can imagine, if the recommended 6% p.a. of the GDP would have been spent properly the present education system would have reached unforeseen heights.	3

30	<p>The given statement is true to its character. The foreign investments, both Foreign Direct Investment (FDI) and Foreign Institutional Investment (FII), have increased from about US \$100 million in 1990-91 to US \$ 74 billion recently. This has changed the status of India from a ‘begging bowl’ in 1990’s to a ‘self-dependent’ economy in the present ages.</p> <p>Due to the opening up of the Indian Economy, she has become one of the largest foreign exchange reserve holders in the world. India been able to register an increase in the foreign exchange reserves from about US \$ 6 billion in 1990-91 to about US \$ 321 billion in 2014-15.</p>	2 2
31	<p>a) Disinvestment: Privatisation of the public sector enterprises (PSEs) by selling off a part/whole of the equity to the general public or any private sector player is known as disinvestment.</p> <p>b) Outsourcing: Hiring of regular service from external sources, mostly from foreign countries, which was previously provided internally or from within the country is known as outsourcing.</p> <p style="text-align: center;">OR</p> <p>a) Import Substitution: The policy aimed at replacing or substituting imports with domestic production by protecting the domestic industries from foreign competition is known as Import Substitution.</p> <p>b) Quota : Quantitative restrictions on imports for the protection of the domestic firms from foreign competition. Under this quantity of goods which can be imported is specified by the state.</p>	2 2 2 2
32	<p>a) The given data shows that the annual growth rate of population is maximum in Pakistan standing at 2.1%, whereas; the same stands at a meager 0.5% in case of China (might be a direct result of the One Child Policy adopted). The annual population growth rate of India is in the danger zone of more than 1% p.a. India will be overtaking China as the most populous country in the world in near future.</p> <p>b) Amongst the three countries stated above, India has most skewed data sex ratio (929 female per 1000 male). This is one of the major concerns for the demographers in India.</p>	3 1
33	<p>Mahatma Gandhi had always maintained that the real growth of India lies in the growth of villages. The importance of rural development in India lies in the fact that 2/3rd of the population still (directly or indirectly) depends on agriculture and around 1/3rd of the rural population still lives in abject poverty.</p> <p>Some of the prime areas for the development of the rural India may be quoted as follows:</p> <ul style="list-style-type: none"> • Infrastructure development – is the key to any development process. Basic infrastructure requirement like electricity, irrigation, credit availability, transport facilities, construction of village roads and feeder 	2

	<p>roads to nearby highways, etc. are the area which still need attention of the government so as to gain commanding heights.</p> <ul style="list-style-type: none"> • Alleviation of poverty - poverty in rural India is an area that should be taken up as a mission for improvement in the living conditions of particularly those living at the bottom of pyramid. This problem may be tackled by emphasizing on greater access to productive employment opportunities. • Development of Human Capital – Rural human capital must be developed by taking sincere steps in the direction of education and health. 	<p>2</p> <p>2</p>
34	<p>The health system in India has undoubtedly improved over the years but the pace of improvement has been unreasonably slow and truly we carry an unhealthy health system.</p> <p>Following may be the most important concerns ailing Indian health system:</p> <ul style="list-style-type: none"> • Low Public Expenditure – In India the health expenditure as a percentage of GDP is abysmally low as compared to some of the major developing countries. It stood at around 4.7% of the total GDP in the year 2014-15. • Urban Rural Divide – People living in rural India do not have sufficient medical infrastructure. Nearly 70% of the population lives in rural areas which have only 20% of the total hospitals of the country. • Women and child health issues - More than 50 per cent of married women in the age group of 15–49 years have iron deficiency, which has contributed to maternal deaths. Infant Mortality Rate per 1,000 live births in India is 34. Malnutrition and inadequate supply of vaccines lead to the death of millions of children every year. <p style="text-align: center;">Or</p> <p>The period between 1990 to 2012 had been a significant one. Introduction of Economic Reforms in India has changed everything in India. Variables shown in the given graph show that GDP growth rate has taken an upwards trend over the years whereas the situation of Employment growth rate has seen major fluctuations while going down in overall trend.</p> <p>GDP growth rate has increased from a meager 3.4% in 1991 to 7.8% in 2012. However the employment growth rate has shown declining trends from 1.5% in 1991 to 1.12% in 2012. Between the period 1999-2005 the employment generation rate was at peak since independence i.e. 2.28% p.a. with the corresponding GDP growth rate standing at a decent 6.1% p.a.</p> <p>The gap between the two variables is maximum between the period 2005-10 when the employment growth rate hit the lowest in history of Independent India i.e. 0.28%. In the same period the GDP growth rate had hit the highest level since independence to the tune of 8.7% p.a. Indian economy has witnessed the peculiar phenomena of ‘jobless growth’ over all these years. Learning from the situation government had put in serious efforts on employment front and brought it to a level of 1.12% p.a. between the period 2010-12.</p> <p>In all the period between 1990-2012 has been a real roller coaster ride for the India economy on the two front of GDP and Employment Growth rate.</p>	<p>2</p> <p>2</p> <p>2</p> <p>6</p>

Blue Print

Section-A Macro Economics					
Unit name	1 mark	3 Marks	4 Marks	6 marks	Total
National Income	1(R)	1(U)		1(A)	10
Money and Banking	1(U),1(A)		1(U)		6
Income determination	1(R), 1(U), 1(E)	1(A),		1(U)	12
Government Budget	1(U), 1(E)		1(R)		6
Balance of Payment	1(A), 1(E)		1(E)		6
Section A	10*1=10	2*3=6	3*4=12	2*6=12	40
Section- B Indian Economic Development					
Development Experience and Economic Reforms	1(R), 1(U), 1(A), 1(E)		1(R), 1(U)		12
Current Challenges facing Indian Economy	1(R), 1(U), 1(A), 1(E)	1(U), 1(A)		1(R), 1(E)	22
Development Experience of India	1(U), 1(E)		1(A)		6
Section B	10*1=10	2*3=6	3*4=12	2*6=12	40
Total	20*1=20	4*3=12	6*4=24	4*6=24	80

Creative Answer Type Questions: Q.No. – 29, 32, 34

Change in Questions:

Marks Category	2018-19	2019-20	Changes
1 mark	8	20	Increased by 12
3 marks	4	4	No change
4 marks	6	6	No change
6 marks	6	4	Decreased by 2
Total Questions	24	34	

SAMPLE QUESTION PAPER (2019-20)

ECONOMICS (030)

Time allowed: 3 hours

Maximum Marks: 80

General instructions:

i.	<i>All the questions in both the sections are compulsory. Marks for questions are indicated against each question.</i>
ii.	<i>Question number 1 - 10 and 18 - 27 are very short-answer questions carrying 1 mark each. They are required to be answered in one word or one sentence each.</i>
iii.	<i>Question number 11 - 12 and 28 - 29 are short-answer questions caring 3 marks each. Answers to them should not normally exceed 60-80 words each.</i>
iv.	<i>Question number 13 - 15 and 30 - 32 are also short-answer questions carrying 4 marks each. Answers to them should not normally exceed 80-100 words each.</i>
v.	<i>Question number 16 - 17 and 33 - 34 are long answer questions carrying 6 marks each. Answers to them should not normally exceed 100-150 words each.</i>
vi.	<i>Answer should be brief and to the point and the above word limit be adhered to as far as possible.</i>

SECTION - A (Macro Economics)

Q.No	QUESTION	Marks
1	Value of Money Multiplier(increases/decreases/remains unchanged) with an increase in Cash Reserve Ratio. (Fill up the blank with correct alternative)	1
2	Define an intermediate good.	1
3	Average Propensity to Consume can never be (choose the correct alternative) a) positive b) zero c) more than one d) less than one	1
4	Name any two quantitative tools to control credit creation in an economy. Or What are demand deposits?	1
5	The monetary policy generally targets to ensure..... (Choose the correct alternative) a) price stability in the economy b) employment generation in the country. c) stable foreign relations. d) greater tax collections for the government.	1
6	In an economy, break-even point and equilibrium point may lie at the same level of income, if ex-ante investments are (Fill up the blank with correct answer)	1
7	State whether the given statement is true or false: ‘Managed Floating Exchange Rate is decided by market forces but remains within a specific range as decided by central bank’.	1
8	The formula to calculate Primary deficit is (Fill up the blank with correct answer)	1

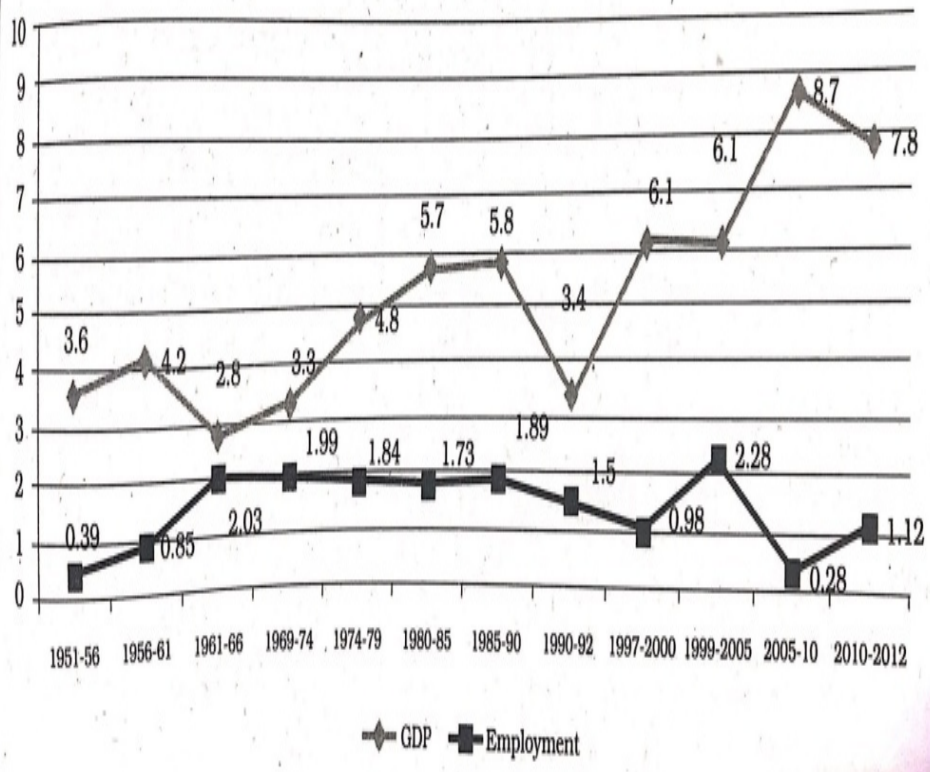
9	<p>From the set of statements given in Column I and Column II, choose the correct pair of statements:</p> <table border="1"> <thead> <tr> <th>Column I</th> <th>Column II</th> </tr> </thead> <tbody> <tr> <td>a) Export of software to France</td> <td>(i) Debit side of current account</td> </tr> <tr> <td>b) Import of Machinery from China</td> <td>(ii) Capital Account of Balance of Payments</td> </tr> <tr> <td>c) Remittances to relative staying abroad</td> <td>(iii) Debit side of Current Account of Balance of Payments</td> </tr> <tr> <td>d) Investment by Apple phones firm in India</td> <td>(iv) Credit side of Current Account of Balance of Payments</td> </tr> </tbody> </table>	Column I	Column II	a) Export of software to France	(i) Debit side of current account	b) Import of Machinery from China	(ii) Capital Account of Balance of Payments	c) Remittances to relative staying abroad	(iii) Debit side of Current Account of Balance of Payments	d) Investment by Apple phones firm in India	(iv) Credit side of Current Account of Balance of Payments	1
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10	<p>Government expenditure on Mid-Day Meal scheme running in government (state run) schools is a type of expenditure in government budget. (Fill up the blank with correct answer)</p>	1										
11	<p>“India's GDP is expected to expand 7.5% in 2019-20: World Bank” <i>- The Economic Times.</i> Does the given statement mean that welfare of people of India increase at the same rate? Comment with reason.</p>	3										
12	<p>Calculate the value of Marginal Propensity to Consume (MPC), if in an economy, autonomous consumption is ₹ 500 crores, ex-ante investments are ₹ 4000crores and equilibrium level of Income of the economy is ₹ 18,000 crores. Or Suppose in a hypothetical economy, the savings increase by ₹ 20 crores when national income increases by ₹ 100 crores. Compute the additional investments needed to attain an increase in national income by ₹ 6,000 crores?</p>	3 3										
13	<p>Discuss any one of the following functions of a central bank: a) As government’s bank b) Open market operations.</p>	4										
14	<p>“Foreign Institutional Investors (FIIs) remained net seller in the Indian capital markets over the last few weeks”. <i>- The Economic Times.</i> State and discuss the likely effects of the given statement on foreign exchange rate with reference to the Indian Economy. Or ‘Many large Multinational Corporations (MNCs) have recently shifted their investments from China and have started their production in India, thereby boosting the Make in India plans of the Government’. Presuming other factors being constant, discuss the effects of the given statement on Foreign Exchange rates with reference to the Indian Economy.</p>	4 4										
15	<p>Elaborate the objective of ‘reallocation of resources’ in the government budget.</p>	4										
16	<p>a) ‘Real Gross Domestic Product is a better indicator of economic growth than Nominal Gross Domestic Product’. Do you agree with the given statement? Support your answer with a suitable numerical example. b) Calculate ‘Depreciation on Capital Asset’ from the following data</p>	4										

	<table border="1"> <tr> <th>S.no</th> <th>Particulars</th> <th>Amount (in ₹crores)</th> </tr> <tr> <td>i.</td> <td>Capital value of the asset</td> <td>1,000</td> </tr> <tr> <td>ii.</td> <td>Estimated life of the asset</td> <td>20 years</td> </tr> <tr> <td>iii.</td> <td>Scrap Value</td> <td>Nil</td> </tr> </table>	S.no	Particulars	Amount (in ₹crores)	i.	Capital value of the asset	1,000	ii.	Estimated life of the asset	20 years	iii.	Scrap Value	Nil	2												
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	<p style="text-align: center;">Or</p> <p>a) 'Circular flow of income in a two sector economy is based on the axiom that one's expenditure is other's income'. Do you agree with the given statement? Support your answer with valid reasons.</p> <p>b) Calculate compensation of employees from the following data:</p> <table border="1"> <tr> <th>S.no</th> <th>Particulars</th> <th>Amount (in ₹crores)</th> </tr> <tr> <td>i.</td> <td>Profits after tax</td> <td>20</td> </tr> <tr> <td>ii.</td> <td>Interest</td> <td>45</td> </tr> <tr> <td>iii.</td> <td>Gross Domestic Product at Market Price</td> <td>200</td> </tr> <tr> <td>iv.</td> <td>Goods and Services Tax</td> <td>10</td> </tr> <tr> <td>v.</td> <td>Consumption of Fixed Capital</td> <td>50</td> </tr> <tr> <td>vi.</td> <td>Rent</td> <td>25</td> </tr> <tr> <td>vii.</td> <td>Corporate Tax</td> <td>5</td> </tr> </table>	S.no	Particulars	Amount (in ₹crores)	i.	Profits after tax	20	ii.	Interest	45	iii.	Gross Domestic Product at Market Price	200	iv.	Goods and Services Tax	10	v.	Consumption of Fixed Capital	50	vi.	Rent	25	vii.	Corporate Tax	5	3
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17	'An economy is operating at under-employment level of income'. What is meant by the given statement? Discuss one fiscal measure and one monetary measure to tackle the situation.	6																								
	SECTION-B (Indian Economic Development)																									
18	Name any two taxes which were subsumed in Goods and Services Tax (GST).	1																								
19	State whether the following statement is true or false: 'The latest demonetization of currency was undertaken by the Government of India on November 8, 2016'.	1																								
20	Identify the correct sequence of alternatives given in Column II by matching them with respective terms in Column I :																									
	<table border="1"> <thead> <tr> <th>Column – I</th> <th>Column – II</th> </tr> </thead> <tbody> <tr> <td>A. Land Ceiling</td> <td>i. Increase in production of food grain using high yielding variety seeds</td> </tr> <tr> <td>B. Land reforms</td> <td>ii. Portion of agricultural produce sold in the market</td> </tr> <tr> <td>C. Green Revolution</td> <td>iii. Fixing the maximum limit of land holding for an individual.</td> </tr> <tr> <td>D. Marketed Surplus</td> <td>iv. Change in the ownership of land (land to tillers)</td> </tr> </tbody> </table>	Column – I	Column – II	A. Land Ceiling	i. Increase in production of food grain using high yielding variety seeds	B. Land reforms	ii. Portion of agricultural produce sold in the market	C. Green Revolution	iii. Fixing the maximum limit of land holding for an individual.	D. Marketed Surplus	iv. Change in the ownership of land (land to tillers)	1														
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21	Agriculture marketing does not comprise of (Choose the correct alternative) a) Transportation of the produce to the market place for sale.																									

	b) Grading of the produce according to the quality. c) Storage of the produce for sale in future. d) Credit taken to meet expenditure on agriculture.	1										
22	Undertype of unemployment, marginal product gained by employing one additional unit of labour is zero. (Fill up the blank with correct answer) Or an indicator which is used for analyzing the employment situation of a country. (Fill up the blank with correct answer)	1										
23	In 1955, Karve committee was constituted for aiming the..... (Fill up the blank with correct answer)	1										
24	Identify the correct sequence of alternatives given in Column II by matching them with respective terms in Column I <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Column – I</th> <th style="text-align: center;">Column -II</th> </tr> </thead> <tbody> <tr> <td>A. Study Group formed by Planning Commission for Poverty</td> <td>i. 2005</td> </tr> <tr> <td>B. ‘Task Force on Projections of the Minimum Needs and Effective Consumption Demand’</td> <td>ii. 1962</td> </tr> <tr> <td>C. Mahatma Gandhi National Rural Employment Guarantee Act</td> <td>iii. 2014</td> </tr> <tr> <td>D. Jan DhanYojana</td> <td>iv. 1979</td> </tr> </tbody> </table> Choose the correct alternative: a) ii , iii , iv , i b) iii , ii , i , iv c) i , ii , iii , iv d) ii , iv , i , iii	Column – I	Column -II	A. Study Group formed by Planning Commission for Poverty	i. 2005	B. ‘Task Force on Projections of the Minimum Needs and Effective Consumption Demand’	ii. 1962	C. Mahatma Gandhi National Rural Employment Guarantee Act	iii. 2014	D. Jan DhanYojana	iv. 1979	1
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25	Solar energy can be converted into electricity with the help of (Photovoltaic cell/Lithium cells). (Fill up the blank with correct alternative)	1										
26	Arrange the following events of China in chronological order and choose the correct alternative: i. Great Proletarian Cultural Revolution ii. Great Leap Forward campaign iii. Introduction of Economic Reforms iv. First five year plan Choose the correct alternative: a) ii, iv, iii, i b) iv, ii, i, iii c) ii, iv, i, iii d) iv, i, ii, iii	1										
27	Introduction of Economic Reform in Pakistan took place in..... (Choose the correct alternative) a) 1978 b) 1980 c)1988 d) 1991	1										

28	<p>“Recently Indians have drifted away from the traditional knowledge and practices and caused large scale damage to environment”.</p> <p>Explain how, adopting the traditional practices can be helpful in achieving the objective of sustainable development?</p> <p style="text-align: center;">Or</p> <p>‘Power sector in India has major issues with its installed capacity’. Discuss the given statement.</p>	3																
29	‘Education Commission 1964-66 had recommended that at least 6 per cent of GDP must be spent on education’. How far India has been able to achieve the said goal?	3																
30	‘The opening up of the Indian Economy has led to a rapid increase in Foreign Direct Investments and Foreign Exchange Reserves of the country’. Defend or refute the given statement.	4																
31	<p>Define the following terms</p> <p>a) Disinvestment b) Import Substitution</p> <p style="text-align: center;">OR</p> <p>Define the following terms</p> <p>a) Outsourcing b) Quota</p>	4																
32	<p>Answer the following questions on the basis of the following data:</p> <p>a) Comment upon the population growth rates among the three countries.</p> <p>b) Which country has most skewed in sex ratio?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Country</th> <th>Estimated Population (in million)</th> <th>Annual Growth of Population (in %)</th> <th>Sex Ratio</th> </tr> </thead> <tbody> <tr> <td>India</td> <td>1311</td> <td>1.2</td> <td>929</td> </tr> <tr> <td>China</td> <td>1371</td> <td>0.5</td> <td>941</td> </tr> <tr> <td>Pakistan</td> <td>188</td> <td>2.1</td> <td>947</td> </tr> </tbody> </table> <p>Source: World Development Indicators, 2015, www.worldbank.org</p>	Country	Estimated Population (in million)	Annual Growth of Population (in %)	Sex Ratio	India	1311	1.2	929	China	1371	0.5	941	Pakistan	188	2.1	947	3 1
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33	“Rural Economic development is essential for Indian Economic development”. Do you agree with the given statement? Support your answer with valid reasons.	6																
34	<p>‘In spite of the increase in public health expenditure Indian Health System is an ailing system in itself’. Defend the statement citing any three major problems of Health sector in India.</p> <p style="text-align: center;">Or</p> <p>Study the following chart showing the Growth of Employment and Gross Domestic Product and analyse the trend of the two variables from 1990-2012.</p>	6																

Growth of Employment and Gross Domestic Product, 1951-2012 (%)



SAMPLE QUESTION PAPER (2019-20)
ENGLISH (CORE) (Code – 301)
CLASS XII

Time allowed: 3 Hrs.

Maximum Marks: 80

General Instructions:

1. This paper is divided into three sections: A, B and C. All the sections are compulsory.
2. Separate instructions are given with each section and question, wherever necessary. Read these instructions very carefully and follow them faithfully.
3. Do not exceed the prescribed word limit while answering the questions.

SECTION-A READING: 20 Marks		
1.	<p>Read the passage given below :</p> <p style="text-align: center;">LIFE BEYOND ACADEMICS</p> <p>1. Academics has always been an essential part of human development. It prepares us to survive in the outside world and establish an identity of our own. But, is an individual's development restricted to merely academics? In India, from an early age, we have been taught that education is limited to the boundaries of academics only; the idea of getting out into the field, for gaining practical experience, is always considered a hoax. This has hindered students' development. But, the truth is that education represents a considerably broader field than we know of it. Our teaching, from the basics, has been focused on getting good grades and job offers, rather than being creative and unique.</p> <p>2. In the 21st century, the pure academic type of education is slowly paving way for a whole new type. The paradigm shift in the whole education system is evident. People have now come to understand that education is a 360 degree activity that should focus on students' overall development, rather than restricting him/her to the classroom.</p> <p>3. Co-curricular activities that take place outside the classroom but reinforce or supplement classroom curriculum, in some way, have become a point of focus today. These activities help in the growth of the child, in more than one way. Participating in such activities helps youngsters grow mentally, socially and individually. Intellectual development of a student is developed in the classroom, but for the aesthetic development such as team- building, character- building, and physical growth, students must step out into the outside world. For instance, if a student is a part of school football team, he/ she will learn team- work and coordination, in a practical manner, which cannot be taught in the class.</p> <p>4. Similarly, in colleges and institutions, there is a need for practical exposure so that the students can experience the actual working of an industry. For example, taking a student to a manufacturing firm will give him/ her the real insight and better learning of the industry. Catering to this change, most professional colleges including B-schools, have started providing practical exposure to students through regular guest lectures, industrial visits, conferences, seminars, cultural festivals, and so on. With industry visits, students are able to better identify their prospective areas of work in the overall organizational function. Moreover, they help enhance interpersonal skills and communication techniques. In addition, guest lectures are equally important for</p>	12

	<p>all – round development of students. It is a great way for students to gain maximum exposure, as guest speakers talk about their real- life experiences and not what is there in the text books.</p> <p>5. Through such events, students are made to participate and coordinate different events wherein, they get to know how exactly things are managed. Classroom teaching provides the foundation, and co-curricular or extra- curricular activities provide practical exposure and opportunities to implement what students learn in the classroom. This helps in developing the overall personality of the students, inculcating various soft – skills in them, which otherwise are difficult to teach. Clearly, life beyond academics creates creative and empowered professionals. (507 Words)</p> <p>1.1 On the basis of your understanding of the above passage, answer any five of the questions given below by choosing the most appropriate option:</p> <p>a. Students' development is hindered by</p> <ol style="list-style-type: none"> i. limiting education to academic boundaries. ii. getting out to the field. iii. being creative and unique. iv.gaining practical knowledge. <p>b. The shift in the education system means</p> <ol style="list-style-type: none"> i. to restrict to classroom activities. ii. to focus on academic development. iii.to ignore 360 degree activity. iv.to focus on overall development. <p>c. Co- Curricular activities that take place outside the classroom do not help in</p> <ol style="list-style-type: none"> i. teamwork and co-ordination. ii. mental and social growth. iii. intellectual development. iv. character building. <p>d. Guest speakers talk about</p> <ol style="list-style-type: none"> i. all round development. ii. their real life experiences. iii. what is in text books. iv. gaining exposure. <p>e. Classroom teaching provides</p> <ol style="list-style-type: none"> i. practical exposure ii. opportunities to implement what is learnt in classroom iii. chance to learn soft skills iv. the foundation <p>f. Life beyond academics facilitates</p> <ol style="list-style-type: none"> i. organizational functions ii. creativity iii. professional fields iv. industrial visits <p>1.2 Answer the following questions briefly :</p> <ol style="list-style-type: none"> a. From earlier times what has not been the focus of education? b. Where should students go for aesthetic development? 	<p>1x5=5</p> <p>1x5=5</p>
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	<p>c. What kind of co- curricular activities have become points of focus today? d. What will give children a better insight into industry? e. Why are soft skills difficult to teach in the classroom?</p> <p>1.3 Pick out the words/phrases from the passage which are similar in meaning to the following:</p> <p>i. untrue (Para 1) ii. cooperative effort (Para 3)</p>	<p>1x2=2</p>
<p>2.</p>	<p>Read the passage given below:</p> <p style="text-align: center;">BALANCING THE SCALES</p> <p>Artificial intelligence (AI) is making a difference to how legal work is done, but it isn't the threat it is made out to be. AI is making impressive progress and shaking up things all over the world today. The assumption that advancements in technology and artificial intelligence will render any profession defunct is just that, an assumption and a false one. The only purpose this assumption serves is creating mass panic and hostility towards embracing technology that is meant to make our lives easier.</p> <p>Let us understand what this means explicitly for the legal world. The ambit of AI includes recognizing human speech and objects, making decisions based on data, and translating languages. Tasks that can be defined as 'search-and-find' type can be performed by AI.</p> <p>Introducing AI to this profession will primarily be for the purpose of automating mundane, tedious tasks that require negligible human intelligence. The kind of artificial intelligence that is employed by industries in the current scene, when extended to law will enable quicker services at a lower price. AI is meant to automate a number of tasks that take up precious working hours lawyers could be devoting to tasks that require discerning, empathy, and trust- qualities that cannot be replicated by even the most sophisticated form of AI. The legal profession is one of the oldest professions in the world. Thriving over a 1000 years; trust, judgement, and diligence are the pillars of this profession. The most important pillar is the relationship of trust between a lawyer and clients, which can only be achieved through human connection and interaction.</p> <p>While artificial intelligence can be useful in scanning and organizing documents pertaining to a case, it cannot perform higher-level tasks such as sharp decision-making, relationship-building with valuable clients and writing legal briefs, advising clients, and appearing in court. These are over and above the realm of computerization.</p> <p>The smooth proceeding of a case is not possible without sound legal research. While presenting cases lawyers need to assimilate information in the form of legal research by referring to a number of relevant cases to find those that will favour their client's motion. Lawyers are even required to thoroughly know the opposing stand and supporting legal arguments they can expect to prepare a watertight defense strategy. AI, software that operates on natural language enables electronic discovery of information relevant to a case, contract reviews, and automation generation of legal documents.</p> <p>AI utilizes big-data analytics which enables visualization of case data. It also allows for creation of a map of the cases which were cited in previous cases and their resulting verdicts, as per the website Towards Data Science. The probability of a positive outcome of a case can be predicted by leveraging predictive analytics with</p>	<p>8</p>

	<p>machine learning. This is advantageous to firms as they can determine the return on investment in litigation and whether an agreement or arbitration should be considered. (484 Words) https://www.thehindu.com/education/balancing-the-scales/article26895865.ece</p> <p>(a) On the basis of your understanding of the above passage, make notes on it using headings and sub-headings. Use recognizable abbreviations (wherever necessary-minimum four) and a format you consider suitable. Also supply an appropriate title to it.</p> <p>(b) Write a summary of the passage in about 80 words.</p>	<p>4</p> <p>4</p>
<p>SECTION : B WRITING SKILLS : 30 Marks</p>		
3.	<p>Your institute, Golden Care Hospital, has decided to organise an 'Organ Donation Camp' to generate awareness about the cause. Draft a Poster giving all the necessary details. (50 words)</p> <p style="text-align: center;">OR</p> <p>Your school is planning to organise a talk on the 'Importance of Promoting Art Education' at all levels. You plan to invite The Director, Delhi School of Art, as a Key Note Speaker. As CCA Coordinator of Vidya Mandir Vidyalaya, draft an invite for the same giving all the necessary details. (50 words)</p>	4
4.	<p>You feel that India will face a severe water crisis by the year 2020. Write a letter to the Editor of The National Daily expressing your concern about it and requesting individuals and authorities to take steps to avert this crisis. You are Shalini/Shaheen. (120-150 words)</p> <p style="text-align: center;">OR</p> <p>Your school has decided to add a few books to the library. The school wants to encourage reading habit amongst students. As the Librarian of the Venkateshwar International school place an order with Pearl Publishers for books for all age levels. Give all necessary details. (120-150 words)</p>	6
5.	<p>Taking selfies has become a rage and is a global phenomenon. It has cost us several lives and also immortalised several moments. Write an article for a National Daily on the trend of taking selfies and its impact on people. You are Aditi/ Aditya. (150-200 words)</p> <p style="text-align: center;">OR</p> <p>A massive fire due to short circuit gutted 50 odd shops in the congested area of Sadar Bazar in Delhi leading to loss of life and property. As a reporter with The Tribune write the report for the newspaper. (150-200 words)</p>	10
6.	<p>Several Environment Activists have recently stopped several development projects due to their impact on the environment. Progress will naturally result in some destruction and harm. As Geeta/ Girish write a Speech to be given in the assembly on how both might be possible. (150-200 words)</p> <p style="text-align: center;">OR</p> <p>'Aggression and sledging are an essential part of Sports.' Write a debate in 150-200 words either for or against the motion. You are Shivam/Shivani.</p>	10

SECTION: C (LITERATURE: TEXT BOOKS) (Marks : 30)		
7.	<p>Read the extract given below and briefly answer the questions that follow each:</p> <p>a. The little old house was out with a little new shed, In front at the edge of the road where the traffic sped, A roadside stand that too pathetically pled..</p> <ol style="list-style-type: none"> 1. Why had a new shed been put up? 2. Which traffic is referred to here? 3. Why is the stand's existence said to be 'pathetic'? 4. '..That too pathetically pled' .Name the figure of speech used. <p>b. I laughed and said, "Well, Mr. Terror, what do you think you can do to me?" It fled and I swam on.</p> <ol style="list-style-type: none"> 1. Who is 'I' here? Who is being addressed to as Mr. Terror? 2. Why has Mr. Terror been addressed so? 3. Why did the narrator laugh?. 4. Why did Mr. Terror leave? 	1x4=4
8.	<p>Answer <u>any five</u> of the following questions in 30 -40 words each:</p> <ol style="list-style-type: none"> a. Who did M. Hamel blame when Franz was unable to answer a question on French participles? b. Why does Anees Jung say that the bangle makers are caught in a vicious web? c. What was the content of the letter written by the peddler to Edla? d. How are Aunt Jennifer's tigers different from her? e. How did 'The World' help Charley to confirm his doubts regarding the existence of a third level? f. How did the woodland creatures react to the skunk's new smell? g. What happened on the seventh day after Dr Sadao had typed the letter? 	2x5=10
9.	<p>Answer the following question in 120-150 words: How did Gandhiji succeed in getting justice for the Indigo sharecroppers? OR Author has used gentle and subtle humour to point out human foibles and idiosyncrasies in the lesson ' Poets and Pancakes'. Elucidate.</p>	6
10.	<p>Answer the following question in 120-150 words: Compare and contrast the characters of Mr. Lamb and Derry. OR How did the mistakes committed by the prison authorities help Evans in escaping from the prison?</p>	6

**ENGLISH ELECTIVE
MARKING SCHEME
2019-20
CODE NO 001
CLASS XII**

General Instructions:

1. The answers given below are suggestive. Give credit to the students if they have made a relevant point which may not have been included in the answers listed below.
2. No marks may be deducted for exceeding word limit.
3. Suggested break up of marks has been indicated against each question. Award marks accordingly.

Time allowed: 3 hours

Maximum Marks : 80

SECTION – A READING – 20 MARKS		
Q.1.	<p>On the basis of your reading of the above excerpt, answer the following questions briefly.</p> <p>(a) felt that Valodaya was far superior to him in everything – in arguments, manners and lessons (b) Nicky thought Valodaya understood what was going on inside him but he tried to hide it. (c) felt guilty of breaking the precious things, didn't know how to reconcile with his brother, embarrassed about his bad conduct (d) overwhelmed with onslaught of emotion, eyes filled with tears, he cried out his apology (e) yes, scared, uncomfortable, guilt ridden, ashamed to be alone with his brother (f) large hearted, avoided getting into fights, generous, well mannered, forgiving (g) (iii) He was reckless with money (h) (ii) was impulsive and volatile, but loved his brother (i) (i) vanity (j) (iv) tormented (k) (iii) For good reason (l) (iv) He felt choked with emotions</p>	12 marks
Q.2	<p>Attempt any two of the following three question in 120-150 words each.</p> <p>(a) the bird has no freedom, its feet are tied, wings are clipped, its dreams are unachievable, it has given up on the dream of flying freely, its dreams are now 'dead'...hence, it stands on its dead dreams now. (b) tight cage, with bars, heavily guarded, can hardly view the outside of the cage, due to its anger and frustration at being imprisoned, it doesn't see beyond the cage.</p>	8 marks

	(c) free bird - free individual, free to live life on own terms caged bird – oppressed, subjugated individuals, deprived of freedom (d) yes, victims of political and social injustice, women not allowed full freedom to pursue dreams and ambitions, people ill treated based on social class and ethnicity.	
	SECTION – B CREATIVE WRITING SKILLS – 20 MARKS	
Q.3	<p>Attempt any two of the following three question in 120-150 words each.</p> <p>(a) Credit to be given to the candidate’s creativity in presentation of ideas, appropriate use of language and skills of reasoning. The marks may divided as –</p> <ul style="list-style-type: none"> • Content – 3 marks • Organisation – 1 marks (fluency, coherence, logical flow) • Expression – 2 marks (vocabulary, originality of ideas, grammatical accuracy) <p>(b) Format 1 (heading + name of contributor) The marks may divided as –</p> <ul style="list-style-type: none"> • Content – 3 marks • Expression – 2 marks (grammatical accuracy, vocabulary, coherence, fluency) • Value Points - Reason for water shortage, global concern, reckless use and misuse of scarce resource, conservation should be everybody’s concern (local & global), steps that can be taken by individual and community <p>(c) Format 1 (heading + name of contributor) The marks may divided as –</p> <ul style="list-style-type: none"> • Content – 3 marks • Expression – 2 marks (grammatical accuracy, vocabulary, coherence, fluency) • Value Points – Advent of technology in private and public lives, after effects of social isolation, cases of depression and maladjustment, effect of family lives 	12 marks
Q. 4	<p>Attempt any one of the following two questions in 150-200 words.</p> <p>(a) The marks may divided as –</p> <ul style="list-style-type: none"> • Format - 1 mark (opening address, salutation, conclusion) • Content – 5 marks • Expression – 4 marks (2 marks for grammatical accuracy, spelling, vocabulary + 2 marks for coherence, relevance, fluency) • Value Points – Huge investment in public amenities, pride of a 	10 marks

	<p>nation, involvement of all stakeholders for its upkeep and ownership, global image, etc.</p> <p>(b) The marks may be divided as –</p> <ul style="list-style-type: none"> • Format - 1 mark (heading, name of contributor) • Content – 5 marks • Expression – 4 marks (2 marks for grammatical accuracy, spelling, vocabulary + 2 marks for coherence, relevance, fluency) • Value Points – Communication gap, peer pressure, increase in financial status, family bonds weakening 	
Q. 5	<p>(a) The book I am reading at the moment is very interesting.</p> <p>(b) He sounded the fire alarm.</p> <p>(c) The teacher asked angrily what did he mean by those words.</p> <p>(d) He was powerful, but he was lonely.</p> <p>(e) The teacher insists on the students writing neatly.</p> <p>(f) Would you please open the window.</p> <p>(g) The victorious soldiers were honoured by the President.</p> <p>(h) She was too tired to finish the task.</p>	8 marks
	<p>SECTION – C Literature– 20 MARKS</p>	
Q. 6	<p>Answer any one of the following two questions in 50-60 words. Deduct ½ mark for two or more spelling errors.</p> <p>(a) symbol of beauty, energy and permanence, also remind the poet of the pains of getting old and the inevitability of death.</p> <p>(b) a strange relationship, suggesting a difference of class, there seems to be an emotional gap too, Eveline views Frank as a rescue her from her abusive father.</p>	2x1=2 Marks
Q. 7	<p>Answer any two of the following three questions in 60-80 words each. Deduct ½ mark for two or more spelling errors.</p> <p>(a) central idea is the blossoming relationship between two people, which at first, flourishes, but as the day proceeds shadows and enshroud the characters idealistic vision, taunting their honesty – disillusion with one another. Light is parallel with love and truth, darkness with infidelity. Shadows are metaphorical, representing emotional detachment, their flaws, secrets distrust – conflict is internal, originating from the characters themselves – the lovers high expectations cast a shadow on the actual practical approach.</p> <p>(b) Use of diction and imagery transforms poem – first stanza introduces setting, concept of pleasure dome, uses imagery of caverns as a metaphor for untapped potential of man’s imagination – palace of Kubla Khan is vivid imagination transcends the barriers of reality through use</p>	4x2=8 marks

	<p>of imagination - poet discusses issues of war/tyranny and contrast that which exists in paradise.</p> <p>(c) her conversations made it clear that, dream by dream, she had taken over the entire fortune of her patrons in Vienna. Author knew that they were no more than a stratagem as she said that she sold them for a living and he realized the reality behind her interpretations – interpreted dreams of the religious family – finally asked them to go away for five years – bequeathed a part of their estate – the author believe in her dreams as he left Vienna and never returned.</p>	
Q. 8	<p>Answer any two of the following three questions in 80-100 words each. Deduct ½ mark for two or more spelling errors.</p> <p>(a) Novel provides guidance in this matter, it helps to see when a man is alive and when he is dead in life, helps to develop an instinct for life, does not advocate a right or wrong path which varies according to circumstances. Novel portrays varying nature of life thus making readers realize that life itself is the reason for living...end result – whole man alive.</p> <p>(b) Science and technology help produce machines – increase in production of food grains – helps in equal distribution of wealth – we can now cultivate the sky as well as the earth – improve quality of grass, improve cattle, butter, poultry – it might prove risky – Shaw talks about ecological disturbance – harsh reality of modern world.</p> <p>(c) Psychological repression of an inverted kind, television screen image is more honest version of Manjula than her own self – he exposes the pathetic mess a person’s psyche can be reduced to over years of suppressed bitterness and lying to oneself – Pseudo Modern World – virtual reality – all forced to believe only that – TV presentation unravels the real story of Manjula’s book.</p>	5x2=10 marks
	<p>SECTION-D Fiction – 10 Marks</p>	
Q. 9	<p>Answer any one of the two questions in 60-80 words. Deduct ½ mark for two or more spelling errors.</p> <p>Content=3 marks, Expression=1 mark (vocabulary, grammatical accuracy)</p> <p>(a) Reveals Captain’s self importance, Madan approaches him about having Raja perform in a film – Madan forced to draft and redraft agreement – gives opportunity to manipulate others – both play power games.</p>	4x1=4 marks

	<p style="text-align: center;">OR</p> <p>(b) Expounds spiritual profundity – understands God’s scheme of things – has overcome limitations of his past life – advises villagers to control their pride and arrogance – doesn’t surround himself with prisons of his own making</p> <p style="text-align: center;">OR</p> <p>(c) Combines traditional values and wave of westernization – bears no remorse in illegal sale of forms – obsession with money leads to neglect of only son – stoops low in immoral literature – suffers no guilt or qualms – devoid of love and compassion – ignores domestic life</p> <p style="text-align: center;">OR</p> <p>(d) Sold the manuscripts of Bed Life by Dr. Pal for whatever cash Margayya has – is assured that the book named Domestic Harmony will sell in thousands if the right publisher is found – Madan Lal agrees to publish it on a 50-50 partnership – book is popular and Margayya hits a fortune.</p>	
<p>Q 10</p>	<p>Answer any one of the two questions in 120-160 words. Deduct ½ mark for two or more spelling errors.</p> <p>Content=4 marks, Expression=2 marks (grammatical accuracy, fluency, coherence, vocabulary)</p> <p>(a) Ugly demeaning words coined by man in his arrogance – it is man’s pride that lies at the roots of his sufferings and delusion – mankind surrounds himself with prisons of his own making – lives under false fallacy that all creatures other than himself are awful beasts – the words portray his pride and ego centricity</p> <p style="text-align: center;">OR</p> <p>(b) Sudden information about his early life – satisfied selfish appetites – has inordinate demands for food – left wife and family without warning – labeled for desertion</p> <p style="text-align: center;">OR</p> <p>(c) Modern town man always struggling to change his social position – experiences ups and downs of life – attains self knowledge only when he gives up his chase for money – lack of insight contributes to his failure</p> <p style="text-align: center;">OR</p> <p>(d) Balu, his spoiled child threw his account books in the gutter which destroyed all transactions – could not SSLC inspite of admitting him in school in great style and private tutor - seized school leaving book, tears it and throws it in the gutter – runs away from home – befriends Dr. Pal and falls into evil ways – refuses to restart the business of his father – spread false rumors about his death.</p>	<p>6x1=6 marks</p>

ENGLISH ELECTIVE
SAMPLE QUESTION PAPER
2019-20
CODE NO. 001
CLASS XII

Time allowed: 3 Hrs.

Maximum Marks: 80

General Instructions:

1. This paper is divided into four sections: A, B, C and D. All sections are compulsory.
2. Separate instructions are given with each section and question, wherever necessary. Read these instructions very carefully and follow them.
3. Do not exceed the prescribed word limit while answering the questions.

SECTION – A		
Reading – 20 Marks		
Q.1	Read the passage given below and answer the questions that follow: 1. I was only a year and some months younger than Valodya; we grew up, studied and played together. No distinction of elder and younger was made between us. But just about the time I am speaking of I began to realize that I was no companion for him, either in age, in interests or in ability. It even seemed to me that Valodya himself was aware of his superiority and was proud of it. This idea (it may have been a wrong one) was inspired by my vanity which suffered every time I came in contact with him. He was better than me in everything; at lessons, in arguments and in manners, and all this took me farther from him and caused me moral anguish which I could not understand. When Valodya was given a tucked linen shirt for the first time I was unhappy for not having a shirt like that. I am sure I would have felt happier if I was convinced that every time he arranged his collar it was not done to annoy me. 2. What tormented me most was that it sometimes seemed to me Valodya understood what was going on inside me but tried to hide it. But perhaps my sensitiveness and tendency to analyse deceived me in this case. It may be Valodya did not feel at all as I did. He was impulsive and his enthusiasm in different hobbies did not last long. 3. He would suddenly develop a passion for pictures, himself take up painting, spend all his money buying them and beg them of his drawing-master, of papa and of grandmamma. Then it would be a craze for curios to decorate his table, collecting them from every room in the house, or a mania for novels which he obtained on the sly and read all day and night. I could not help being impressed by his hobbies but I was too proud to imitate him and too young and not independent enough to choose a hobby for myself. But there was nothing I envied so much as Valodya's happy large heartedness which showed itself most strikingly when we quarreled. I always felt that he was behaving well but I could not do likewise. 4. Once when his passion of ornaments was at its height, I went up to his table and accidentally broke an empty bright-coloured little scent bottle.	12 Marks (1 x 12)

“Who asked you to touch my things?” demanded Valodya coming into the room and seeing how I had upset the symmetry of the different treasures on his table. “And where is the scent bottle? You must have....”

5. “I knocked it over by accident and it broke. What does it matter?”

“Do me the favour-never dare touch my things again”, he said, putting the pieces of broken flask together and looking at them sorrowfully.

“And you please don’t issue orders” I retorted, “that’s all.” And I smiled, though I did not feel in the least like smiling.

“Yes, its nothing to you but it does matter to me,” pursued Valodya, jerking his shoulder, a gesture he had inherited from pap. “He goes and breaks it and then laughs, the nasty little brat!”

“I am a little brat; and you’re big but you’re stupid.”

“I am not going to quarrel with you,” said Valodya, giving me a slight push, “go away.”

“Don’t push!”

“Get away!”

“Don’t push, I tell you!”

Valodya took my word and tried to drag me away from the table; but I was beside myself by now; I got hold of the leg of the table and tipped it over. “There now!” And all his china and glass ornaments crashed to the floor. “You disgusting little boy!” cried Valodya, trying to save some of his falling treasures.

“Well, now it is all over between us,” I thought as I left the room, “we have quarreled for good.”

6. As soon as afternoon lessons were over I left the room. I was too scared, uncomfortable and ashamed to be alone with my brother. After our history lesson in the evening I took my exercise books and started towards the door. As I passed Valodya, though I wanted to go up to him and make friends I scowled and put on an angry expression. At that moment Valodya raised his head and, with a meaningful smile, looked me full in the face. Our eyes met and I knew that he understood me; but some irresistible feeling made me turn away.

7. “Nicky!” he said in a most natural voice without a scrap of pathos. “Don’t be cross any more. Forgive me if I offended you.” And he held out his hand. Something that came higher and higher seemed to be pressing my chest and stopping my breath but this only lasted a second; tears came to my eyes and I felt better. “Forgive....m-me, Val-dya,” I stammered, squeezing his hand. Valodya looked at me as if he could not make out at all why there should be tears in my eyes.

- Leo Tolstoy

(Excerpts from his autobiographical novel ‘Boyhood’ originally written in Russian, translation by C.J. Haqar)

	<p>On the basis of your reading of the above excerpt, answer the following questions briefly:-</p> <p>(a) Why did Nicky feel that he was not an apt companion for Valodaya? 1</p> <p>(b) About which aspect of Valodya’s personality was Nicky most upset? 1</p> <p>(c) Why did Nicky feel uncomfortable and ashamed to be alone with his brother ? 1</p> <p>(d) What did Nicky do to show that he was sorry for all that he had done in the morning? 1</p> <p>(e) Was the narrator repentant for his behavior? How do you know? 1</p> <p>(f) What does Valodaya’s behavior show about his character? 1</p> <p>(g) Choose the correct option: Which of the following is NOT true for Valodaya? 1</p> <p>(i) He was fond of reading.</p> <p>(ii) He was inclined towards painting.</p> <p>(iii) He was reckless with money.</p> <p>(iv) He liked collecting curios and works of art.</p> <p>(h) “I am a little brat, and you’re big but you are stupid.” 1 This line highlights that Nicky –</p> <p>(i) was disrespectful towards his brother</p> <p>(ii) was impulsive and volatile, but loved his brother 1</p> <p>(iii) was jealous of his brother</p> <p>(iv) was unapologetic towards his brother</p> <p>(i) Choose the synonym of <i>pride</i> (para 1)</p> <p>(i) vanity</p> <p>(ii) superiority</p> <p>(iii) anguish</p> <p>(iv) distinction</p> <p>(j) Choose the antonym of <i>comforted</i> (para 2) 1</p> <p>(i) deceived</p> <p>(ii) tormented</p> <p>(iii) impulsive</p> <p>(iv) enthusiasm</p> <p>(k) Choose the right answer which explains the underlined phrase: We have quarreled <u>for good</u></p> <p>(i) It is very good 1</p> <p>(ii) Forever</p> <p>(iii) For good reason</p> <p>(iv) For good things to follow</p> <p>(l) “Something that came higher and higher seemed to be pressing my chest,” implies</p> <p>(i) his brother towered over him.</p> <p>(ii) he was in a state of confusion. 1</p> <p>(iii) his brother tried to overpower him.</p> <p>(iv) he felt choked with emotions.</p>	
Q.2	<p>Read the poem given below and answer the questions that follow:</p> <p style="text-align: center;">I Know Why The Caged Bird Sings <i>By Maya Angelou</i></p> <p style="text-align: center;">The free bird leaps on the back of the wind and floats downstream</p>	8 marks (2 x 4)

	<p style="text-align: center;">till the current ends and dips his wings in the orange sun rays and dares to claim the sky.</p> <p style="text-align: center;">But a bird that stalks down his narrow cage can seldom see through his bars of rage his wings are clipped and his feet are tied so he opens his throat to sing.</p> <p style="text-align: center;">The caged bird sings with fearful trill of the things unknown but longed for still and his tune is heard on the distant hill for the caged bird sings of freedom</p> <p style="text-align: center;">The free bird thinks of another breeze and the trade winds soft through the sighing trees and the fat worms waiting on a dawn-bright lawn and he names the sky his own.</p> <p style="text-align: center;">But a caged bird stands on the grave of dreams his shadow shouts on a nightmare scream his wings are clipped and his feet are tied so he opens his throat to sing</p> <p style="text-align: center;">The caged bird sings with a fearful trill of things unknown but longed for still and his tune is heard on the distant hill for the caged bird sings of freedom.</p> <p>On the basis of your reading of the poem, answer the following questions in 50-60 words each.</p> <p>a) What is the grave of dreams and why does a caged bird stand on it? 2</p> <p>b) Why does a bird that stalks down his narrow cage can seldom see through his bars of rage? 2</p> <p>c) Who are referred to as free bird and caged bird in the poem? Why? 2</p> <p>d) Is the situation of the caged bird relevant to the contemporary times? 2</p>	
	<p>SECTION - B Creative Writing Skills and Applied Grammar – 30 Marks</p>	
<p>Q. 3</p>	<p>Attempt any two of the following three questions in 120-150 words each.</p> <p>a) Describe an influential person and explain why you feel this person is a positive role model.</p> <p>b) Water is the force behind agriculture, industries, trade and commerce. Lately, India has been facing severe scarcity of this vital resource. Write an article for your school magazine on the need for water conservation. You are Rajiv/Ragini.</p> <p>c) Technology appears to create global network, bringing people together. But, it also replaces real life communication, thus bringing social isolation. Write your views on the impact of technology on human connections for an e-journal. You are Sourabh/Surabhi.</p>	<p>12 marks (6 x 2)</p>

Q. 4	<p>Attempt any one of the following two questions in 150-180 words.</p> <p>a) It is seen that public property is often defaced and damaged. The infrastructure (public transport, subways, roads, gardens) provided by the government helps the nation develop and it's the responsibility of each citizen to ensure that it remains unharmed. Write a speech voicing your concerns over the need to have a sense of ownership and national pride. You are Rati/Rahul.</p> <p>b) You are Malini/Manoj. Write an article to be published in a leading daily urging all parents to give their time and moral support to their children, especially the adolescents who face multiple pressures in this crucial phase of their lives. Many of your friends are getting expensive gifts from their parents, but not their attention and time.</p>	10 marks (10 x 1)
Q. 5	<p>Transform the following sentences as per the given instructions.</p> <p>a) <i>I am reading a book at the moment. It is very interesting. (combine the sentences using the beginning given)</i> The book _____</p> <p>b) The fire alarm has been sounded by him. (<i>transform to active voice</i>)</p> <p>c) "What do you mean by these words?", asked the teacher angrily. (<i>transform to indirect speech</i>)</p> <p>d) Though he was powerful, he was lonely. (<i>rewrite as a compound sentence</i>)</p> <p>e) The teacher insists that the students write neatly. (<i>Rewrite the sentence using 'writing'</i>)</p> <p>f) Open the window. (<i>rewrite using the beginning given</i>) Would _____</p> <p>g) The soldiers who were victorious were honoured by the President. (<i>rewrite as a simple sentence</i>)</p> <p>h) She was so tired that she could not finish the task. (<i>rewrite the sentence using 'too'</i>)</p>	8 marks (1 x 8)
SECTION – C Literature (20 Marks)		
Q. 6	<p>Answer any one of the following two questions in 50-60 words.</p> <p>(a) What do the swans in the poem, 'The Wild Swans at Coole' symbolize? (b) What type of relationship does Eveline have with Frank?</p>	2 marks (2 x 1)
Q.7	<p>Answer any two of the following three questions in 60-80 words each.</p> <p>(a) Comment on the use of the shadows for the idea that the poet wants to convey in the poem – (A Lecture Upon the Shadow) (b) How can the poem Kubla Khan by Coleridge be read as an illustration of the power of imagination? (c) Why did the author think that Frau Frieda's dreams were a stratagem for surviving? Did he believe in her prophetic ability? (I Sell My Dreams)</p>	8 marks (4 x 2)
Q.8	<p>Answer any two of the following three questions in 80-100 words each.</p> <p>(a) How does D.H. Lawrence assert that the novel is a book that can touch</p>	10 marks (5 x 2)

	<p>the life of a whole man alive and that is why the novel matters?</p> <p>(b) Nature may have tricks up her sleeves to check us if the chemists exploit her too greedily. Critically comment on the statement. (Freedom)</p> <p>(c) Girish Karnad's 'Broken Images' explores the crisis of identity and rips the mask of a celebrity. Comment.</p>	
	<p>SECTION-D Fiction (10 marks)</p>	
Q.9	<p>Answer any one of the following questions in 60-80 words</p> <p>(a) Describe the business agreement between Captain and Madan.</p> <p>(b) The creation of the role of Master is intended to serve as an ideal. Justify.</p> <p>(c) Margayya's rise and fall in life makes the readers introspect on various notions of ethics and integrity. Elaborate.</p> <p>(d) Describe briefly Margayya's new found career in the publishing house.</p>	<p>4 marks (4 x 1)</p>
Q.10	<p>Answer any one of the following questions in 120-160 words.</p> <p>(a) Why does the Master advise the frightened villagers not to use the words 'beast' or 'brute'?</p> <p>(b) The Master's early life is a total contrast to his present philosophical leanings. Comment.</p> <p>(c) Margayya, the hero of The Financial Expert is probably Narayan's greatest single comic creation. Justify.</p> <p>(d) In what way is Margayya ruined through his own son?</p>	<p>6 marks (6 x 1)</p>

MARKING SCHEME

GEOGRAPHY (029)

CLASS-XII

Time: 3hours

Max.marks 70

General Instructions:

- i. There are 30 questions in all.
- ii. All questions are compulsory.
- iii. Question numbers 1 to 18 are Multiple Choice Questions (MCQs) carrying 1 mark each. Write only the correct answer in you answer sheets.
- iv. Question numbers 19 to 22 are short answer questions carrying 3 marks each. Answer to each of these questions should not exceed 80-100 words.
- v. Question numbers 23 to 28 are long answer questions carrying 5 marks each. Answer to each of these questions should not exceed 150 words.
- vi. Question numbers 29 and 30 are related to identification or location and labeling of geographical features on maps, carrying 5 marks each.
- vii. Outline map of India and World are provided to you must be attached within your answer book.
- viii. Use of template or stencils for drawing outline maps is allowed.

SECTION A		
Q1	<p>Which one of the following is the largest linguistic group of India?</p> <p>a. Sino - Tibetan</p> <p>b. Indo - Aryan</p> <p>c. Austric</p> <p>d. Dravidian</p> <p>ANS: b) Indo Aryan</p> <p style="text-align: center;">OR</p> <p>C Which one of the following periods had witnessed rapid growth of population.</p> <p>a. Before 1921</p> <p>b. 1921 - 1951</p> <p>c. 1951 – 1981</p> <p>d. After 1981</p> <p>ANS: c) 1951 - 1981</p>	1

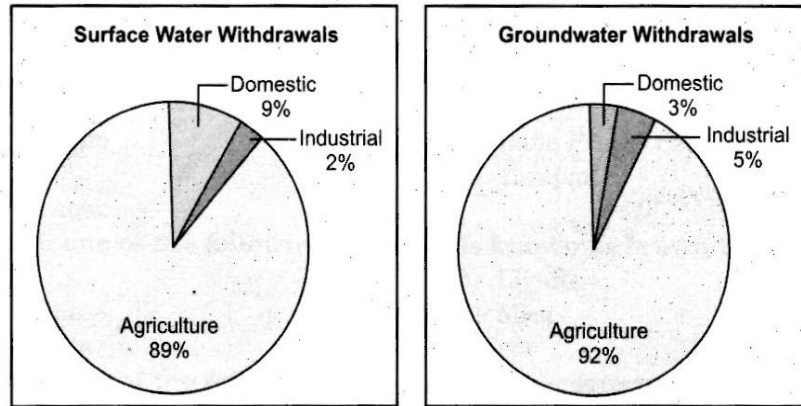
Q2	<p>Which one of the following is the main reason for male migration in India?</p> <ul style="list-style-type: none"> a. Education b. Business c. Work and employment d. Marriage <p>ANS: c) Work and employment.</p>	1
Q3	<p>Identify the country with the highest sex ratio in the world</p> <ul style="list-style-type: none"> a. Latvia b. United Arab Emirates c. Japan d. France <p>ANS: Latvia</p> <p style="text-align: center;">OR</p> <p>Which one of the following figures represents the working age group of the population?</p> <ul style="list-style-type: none"> a. 15 to 65 years b. 15 to 64 years c. 15 to 66 years d. 15 to 59 years <p>ANS: 15 to 59 years</p>	1
Q4	<p>Which one of the following group of cities have been arranged in the sequence of their ranks i.e., 1,2,3 and 4 in size ?</p> <ul style="list-style-type: none"> a. Greater Mumbai, Bangaluru, Kolkata, Chennai. b. Delhi, Greater Mumbai, Chennai, Kolkata. c. Kolkata, Greater Mumbai, Chennai, Delhi. d. Greater Mumbai, Kolkata, Delhi, Chennai. <p>ANS: d) Greater Mumbai, Kolkata, Delhi and Chennai</p> <p style="text-align: center;">OR</p> <p>Palli and nagla belong to which one of the following rural settlements-</p> <ul style="list-style-type: none"> a. Clustered 	1

	<ul style="list-style-type: none"> b. Semi-clustered c. Hamleted d. Dispersed or isolated. <p>ANS: c) Hamleted</p>	
Q5	<p>Which one of the following is not a Push factor?</p> <ul style="list-style-type: none"> a. Water Shortage b. Medical/Educational facilities c. Unemployment d. Epidemics <p>ANS: Medical/Educational facilities</p>	1
Q6	<p>Which one of the following best describes Development?</p> <ul style="list-style-type: none"> a. An increase in size b. A constant in size c. A positive change in quality d. A simple change in quality <p>ANS: A positive change in quality</p>	1
Q7	<p>Which one of the following is not a Plantation Crop?</p> <ul style="list-style-type: none"> a. Coffee b. Sugarcane c. Wheat d. Rubber <p>ANS: Wheat</p>	1
Q8	ANS: Kolkhoz	1
Q9	<p>Which one of the following does not follow Monoculture?</p> <p>ANS: Mixed Farming does not follow Monoculture</p> <p style="text-align: center;">OR</p> <p style="text-align: center;">Plantation Agriculture follows Monoculture</p> <p>(Anyone of the above option is correct)</p>	1
Q10	<p>Which one of the following forms of settlement develops along either side of roads, rivers or canals?</p>	1

	<ul style="list-style-type: none"> a. Circular b. Linear c. Cross Shaped d. Square <p>ANS: Linear</p>	
Q11	<p>Which one of the following types of economic activities dominates in all rural settlements?</p> <ul style="list-style-type: none"> a. Primary b. Tertiary c. Secondary d. Quaternary <p>ANS: Primary</p>	1
Q12	<p>The first urban settlement to reach a population of one million was:</p> <ul style="list-style-type: none"> a. Paris b. New York c. London d. Canberra <p>ANS: London</p>	1
Q13	<p>Which one of the following is a land locked harbor?</p> <ul style="list-style-type: none"> a. Vishakhapatnam b. Mumbai c. Ennor d. Haldia <p>ANS: Vishakhapatnam</p>	1
Q14	<p>Which one of the following is the longest national highway of India?</p> <ul style="list-style-type: none"> a. NH-1 b. NH-7 c. NH-6 d. NH-8 <p>ANS: NH-7</p>	1
Q15	<p>Complete the following table by writing appropriate names in the blank</p>	1

	<p>boxes:</p> <div style="text-align: center;"> <pre> graph TD A[Means of Communications] --> B[] B --> C[Letter, Telephone, Telegram, Fax, e-mail, Internet, etc.] B --> D[Radio, Television, Cinema, Satellite, Newspaper, Magazines, Public meetings, Seminar and conferences] </pre> </div> <p>ANS: Personal and Mass</p>	
Q16	<p>Name the Headquarters of Northern Railway Zone of India</p> <ol style="list-style-type: none"> Lucknow Kanpur New Delhi Chandigarh <p>ANS: New Delhi</p>	1
Q17	<p>Land degradation in irrigated areas is caused by which of following reason?</p> <ol style="list-style-type: none"> Gully erosion Wind erosion Salinization of soil Siltation of land <p>ANS: Salinization of soil</p>	1
Q18	<p>South-West monsoon in India coincides with which cropping season?</p> <ol style="list-style-type: none"> Kharif Rabi Zaid None of the above <p>ANS: a) Kharif</p>	1

SECTION B		
Q19	<p>“The chief gateways of the world of international trade are the harbours and ports”. Justify the statement with examples.</p> <p>ANS:</p> <ol style="list-style-type: none"> 1. Ports provide facilities of docking, loading and unloading of cargo. 2. Ports provide storage facilities for cargo 3. Labour and managerial services are provided at the ports. 	3
Q20	<p>How is Possibilism different from Environmental Determinism? Explain with suitable Examples.</p> <p>ANS: Possibilism: With passage of time, humans developed better and efficient technology. This gave him many choices and possibilities to use resources offered by the environment. They become free to use natural resources according to their convenience and necessities. Man has created health resorts on highlands, huge urban sprawls, fields, orchards and pastures in the plains, ports on the coasts and satellites in space. This was termed Possibilism by earlier scholars.</p> <p style="padding-left: 40px;">Determinism: In the earlier stages of Human evolution, There was no technology to modify environment by man. Thus, the human beings adapted to the dictates of the nature. The naturalised human was afraid of nature and worshipped the forces of nature such as fire, floods, rains, etc.</p>	3
Q21	Study the pie-chart given below and answer the questions that follow-	3



Source : *Earth Trend 2001, World Resource Institute, as given in Govt. of India (200*
Fig. : Sectoral Usage of Surface Water Fig. Sectoral Usage of Groundwater

1. Which sector's share is the maximum in the usage of surface and ground water?
2. What is the percentage of agricultural sector in the usage of surface water and Ground water?
3. Why the development of irrigation was assigned a very high priority in the Five years plans and how?

ANS:

1. **Agricultural sector share is the maximum in the usage of surface water and groundwater.**
2. **Surface water- 89% and Groundwater- 92%. India has traditionally been an agrarian economy with two-third of its population depends on agriculture.**
3. **Multipurpose river valley projects were launched to meet the irrigational needs of the country in five years plans.**

Q22	<p>'Development has direct bearings on the deteriorating human conditions'.</p> <p>How poor people are more affected in this process ?</p> <p>ANS. The development has direct bearing on the deteriorating human conditions due to environmental degradation and ecological crisis. Air, soil, water and noise pollution have threatened our existence.</p> <p>Consequently, the poor are subjected to three interrelated processes of declining capabilities as given below-</p> <ol style="list-style-type: none"> 1. Social capabilities due to displacement and weakening social ties. 2. Environmental capabilities due to pollution. 3. Personal capabilities due to increasing incidence of diseases and accidents. <p>This has adverse effects on their quality of life and human development</p> <p>(Any other point highlighting creativity)</p> <p style="text-align: center;">OR</p> <p>Describe the concept of Human Development as defined by United Nations Development Programme (UNDP)</p> <p>ANS. As per the World Human Development Report , Human Development is a process of enlarging the range of people's choices, increasing their oppurtunities for education, health care, income and empowerment and covering the full range of human choices from a sound environment to economic, social and political freedom.</p> <p>Thus enlarging the range of people's choices is the most significant aspect of human development. It is just opposite the western or euro-centric view of development. People should be able to live a long and healthy life. They should be educated and have access to resourcess needed for a decent standard of living. These are necessary and non-negotiable aspects of the human development.</p>	3
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SECTION C		
Q23	<p>The challenge of sustainable development requires integration of quest for economic development with environmental concerns. Comprehend the statement in relation to the development of non conventional sources of energy in India by giving suitable example.</p> <p>ANS:</p> <ol style="list-style-type: none"> 1. The sustainable development is important because it calls for the protection of resources for future generations. 2. Sustainable energy resources are only the renewable energy resources like solar, wind, hydro, geothermal and biomass. 3. These energy sources are more equitably distributed and environmental friendly. 4. Non-conventional energy sources will provide more sustained, eco friendly cheaper energy after the initial cost is taken care of. 5. Traditional methods of resource use result into generating enormous quantity of waste as well as create other environmental problems. Hence, sustainable development calls for the protection of resources for the future generation. There is an urgent need to conserve the resources. <p>(Any other relevant point)</p> <p style="text-align: center;">OR</p> <p>Nuclear energy is replacing the conventional sources in India. Do you think it as a viable energy source of energy in future keeping in view the availability of nuclear minerals in India.</p> <p>ANS: Nuclear energy has emerged as a viable source in recent times. Important minerals used for the generation of nuclear energy are Uranium and Thorium. Uranium deposits occur in Dharwar rocks. It is found in several locations along the Singhbhum copper belt. It is also found in Udaipur, Alwar and Jhunjhunu district of Rajasthan, Durg</p>	1x5=5

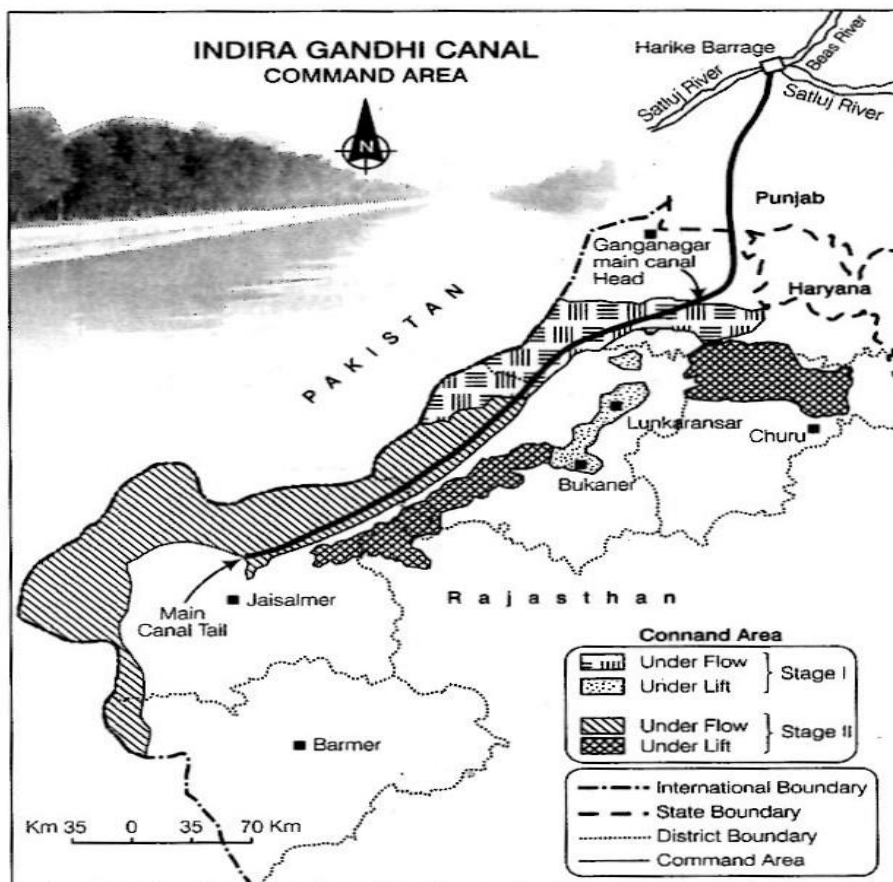
district of Chhattisgarh, Bhandara district of Maharashtra and Kullu district of Himachal Pradesh. Thorium is mainly obtained from the monazite and limonite in the beach sand along the cost of Kerala and Tamilnadu. World's richest monazite deposits occur in Palakkad and Kollam districts of Kerala, near Visakhapatnam in Andhra Pradesh and Mahanadi river delta in Odisha.

Atomic energy commission was established in 1948. The important nuclear power projects are Tarapur (Maharashtra) Rawatbhata near Kota (Rajasthan), Kalpakkam (Tamilnadu), Narora (Uttar Pradesh) Kaiga (Karnataka) and Kakrapara (Gujarat)

Collaboration with France, Germany, Russia and U.S.A. in developing the required technology is a positive step in this direction.

(Any other relevant point)

Q24 Study the map given below and answer the questions that follows-



a. What is the difference between the two areas shown as 'Under Flow'

	<p>and 'Under Lift' system of irrigation.</p> <p>b. Name the districts that are benefited by the command area of the canal in stage I and stage II.</p> <p>ANS:</p> <ol style="list-style-type: none"> 1. The canal has two irrigation system such as Flow system (underflow) and lift system (underlift). Around 70% land of the command area is irrigated by flow system and rest 30% Land by lift system. All the lift channels of Indira Gandhi Canal system originate at the left Bank of main canal while the canals on the right Bank of main canal are Flow canals. 2. Stage 1- Ganganagar, Hanumangarh and northern parts of Bikaner and Jaisalmer district. Stage 2- Bikaner, Jaisalmer, Barmer, Jodhpur, Nagaur and Churu districts. Main characteristics of the area are: <p>For Visually Impaired Candidates only</p> <ol style="list-style-type: none"> i- The availability of soil moisture for a longer period of time and various afforestation and pasture development programs under CAD have resulted in greening the land. ii- It has also helped in reducing wind erosion and siltation of canal. iii- Canal irrigation has brought a perceptible transformation in the agricultural economy of the region because it has led to increase in cultivated areas and intensity of cropping. The traditional crops – gram, bajra and jowar – have been replaced by wheat, cotton, groundnut and rice. <ol style="list-style-type: none"> b) Ganganagar, Bikaner, Jaisalmer, Barmer, Churu, Lunkaransar (Any four) 	<p>3+2=5</p>
<p>Q25</p>	<p>How are industries classified on the basis of the raw material used?</p> <p>ANS:</p> <ol style="list-style-type: none"> 1. Agro-based industries: These industries process the raw material 	<p>5</p>

	<p>from the agricultural field into finished products to be consumed in the market. Major agro based industries are food processing, sugar, fruit juices, etc.</p> <ol style="list-style-type: none"> 2. Mineral based industries: These industries use minerals such as iron, copper, cement as raw material. 3. Chemical based industries: These industries use natural chemical minerals such as Petroleum, salts, sulphur, etc. 4. Forest based industries: These industries use material provided by the forest such as, timber for furniture industry, wood, grass, bamboo for paper industry, etc. 5. Animal based industries: Raw material in these industries is obtained from animals. For example, wool for woollen textiles, ivory from elephant tusks and leather from animal hide. <p style="text-align: center;">OR</p> <p>Explain why high-tech industries in many countries are being attracted to the peripheral areas of major metropolitan centres?</p> <ol style="list-style-type: none"> 1. Land is generally cheap in the peripheral areas of the cities and is available in abundance. Single story buildings can be built. 2. The peripheral areas can be well connected with roadway and railway network used by high tech industries. 3. Cheap and skilled labour is easily available from the nearby areas. 4. Highly skilled specialists and professionals are available in major metropolitan centres. 5. The features of high tech industrial landscape are neatly spaced, low, modern, dispersed office plant-lab buildings for which the peripheral areas of the cities are most suited. 	
Q26	<p>“Modern economic development in the world is mainly the result of the development of Quaternary services.” Explain the statement with suitable examples.”</p> <p>ANS: Following are the points which explain the statement:</p>	5

	<ul style="list-style-type: none"> a. The economic activities have become specialized and complicated and has resulted in a new group of activities, like the Quaternary activities. b. The Quaternary activities are related to knowledge and education, information, research and development. c. The people of the Quaternary activities are innovative and contribute to the research and development. d. Only a few people are engaged in Quaternary activities in economically developed countries. e. It is characterized by the highest income and higher degree of mobility in the process of career development. 	
<p>Q27</p>	<p>What are the modes by which cyber space will expand the contemporary economic and social space of humans?</p> <p>ANS: Cyber Space is very important in today's life. It enables us to communicate or access any information without physical movement of the sender and the receiver. It has brought the world closer to each other. One can now communicate with any person in any part of the world. It can be used in an office, sailing boat, flying plane and virtually everywhere.</p> <p>Cyber space has expanded the contemporary economic and social space of humans through e-mail, e-commerce, e-learning and e-governance. It will be accessible to more and more people cutting across space and time under these circumstances. These modern communication systems have made the concept of 'Global Village' a reality.</p> <p style="text-align: center;">OR</p> <p>Which are the major regions of the world having a dense network of airways?</p> <p>ANS: Dense network of airways exists in Eastern USA, Western Europe and South East Asia. USA alone accounts for 60% of the world airways. New York, London, Paris, Amsterdam, Frankfurt, Rome, Moscow,</p>	<p>5</p>

	<p>Karachi, New Delhi, Mumbai, Bangkok, Singapore, Tokyo, San Francisco, Los Angeles and Chicago are the nodal points where air route coverage is maximum.</p>	
Q28	<p>Land degradation caused by human made processes are more harmful than natural processes in India. Analyse the statement with suitable examples.</p> <p>Ans. Land Degradation is generally understood either as a temporary for a permanent decline in productive capacity of the land. The causes or factor responsible for land degradation in India are given below:</p> <ol style="list-style-type: none"> 1. Soil erosion. 2. Water logging 3. Salinisation 4. Alkalinisation of land <p>Land is constantly used without managing its fertility, it is degraded and its productivity decline. Deforestation, overgrazing, mining and quarrying too are responsible for land degradation in India. Land Degradation caused by human processes are more harmful than natural processes in India. Man-made degraded wasteland such as degraded shifting cultivation area, degraded land under plantation crops, degraded forest, mining and industrial waste land are 5.8 % of the total geographical area. In states like Jharkhand, Chhattisgarh, Madhya Pradesh and Odisha deforestation due to mining have caused severe Land Degradation. In states like Gujarat, Rajasthan, Madhya Pradesh, and Maharashtra overgrazing is one of the main reasons for the land degradation</p> <p style="text-align: center;">OR</p> <p>How has Noise pollution become hazardous in many big cities of India? Explain giving suitable examples.</p> <p>Ans. Noise pollution has become hazardous in many big cities of India like Delhi , Mumbai due to following factors-</p> <ol style="list-style-type: none"> 1. With the increase in population, the volume of traffic and passenger has increased. This has led to more noise 	5

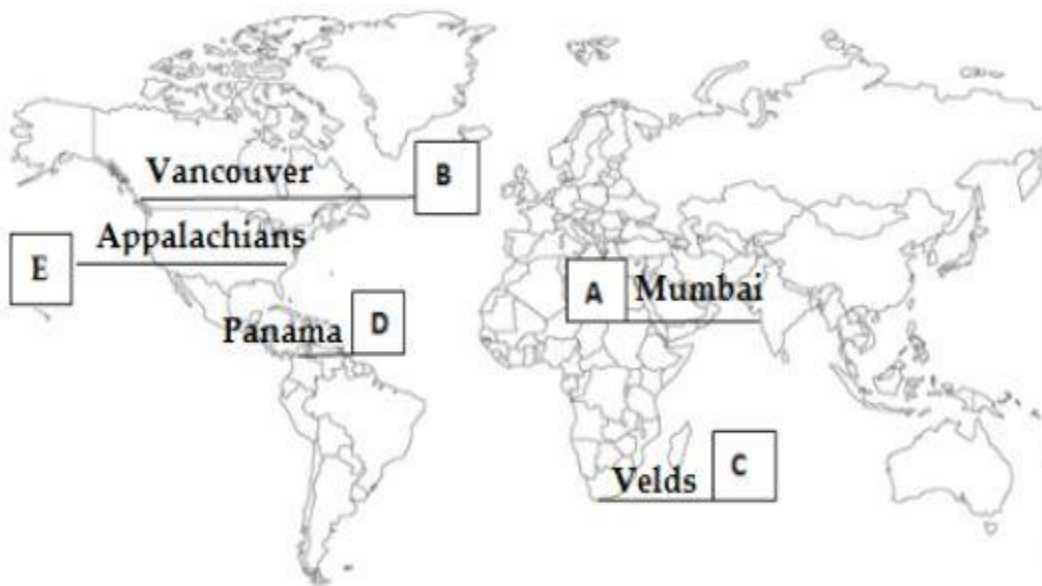
	<p>pollution.</p> <ol style="list-style-type: none"> 2. More people have become prosperous in the cities. As a result of this, number of private vehicles such as cars have increased significantly. This has led to traffic jams during peak hours, i.e. in the morning and in the evening when people go and come from office. This has increased noise pollution on the roads. 3. Rapid industrialisation in and around the residential Colony has also increased noise pollution. Small and cottage industries are set up in the areas near the market. 4. The construction activities have increased to accommodate the ever increasing population in the big cities. These activities become hazardous as too much noise is created by them. 5. Religious activities, social functions, rallies, etc. create noise pollution particularly in the late hours of the day. 	
Q29	<p>On the outline map of India mark and indicate the following features (any five)-</p> <ol style="list-style-type: none"> a. State having highest urban population b. Software technology park of Telangana c. International airport located in Assam d. Eastern terminal point of Golden quadrilateral e. Copper mine located in Rajasthan f. Bauxite mines in Odisha g. Southern terminal of North-South corridor. 	1x5=5
Q30	<p>On the given political map of the world, following five features are shown. Identify these features with the help of the given key and write them on the blanks marked A , B , C , D and E</p> <ol style="list-style-type: none"> A. A Mega city B. A major sea-port 	1x5=5

	<p>C. Grasslands of Africa with extensive commercial grain farming</p> <p>D. An important Shipping Canal</p> <p>E. Industrial region of the US.</p>	
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Q29



Q30



SAMPLE QUESTION PAPER (2019-2020)

GEOGRAPHY (029)

CLASS-XII

Time: 3hours

Max. Marks 70

General Instructions:

- i. There are 30 questions in all.
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- vii. Outline map of India and World provided to you must be attached within your answer book.
- viii. Use of template or stencils for drawing outline maps is allowed.

SECTION A		
Q1	<p>Which one of the following is the largest linguistic group of India?</p> <ol style="list-style-type: none">a. Sino – Tibetanb. Indo – Aryanc. Austricd. Dravidian <p style="text-align: center;">OR</p> <p>Which one of the following periods had witnessed rapid growth of population.</p> <ol style="list-style-type: none">a. Before 1921b. 1921 - 1951c. 1951 – 1981d. After 1981	1
Q2	<p>Which one of the following is the main reason for male migration in India?</p> <ol style="list-style-type: none">a. Educationb. Businessc. Work and employmentd. Marriage	1

Q3	<p>Identify the country with the highest sex ratio in the world</p> <ol style="list-style-type: none"> Latvia United Arab Emirates Japan France <p>OR</p> <p>Which one of the following figures represents the working age group of the population?</p> <ol style="list-style-type: none"> 15 to 65 years 15 to 64 years 15 to 66 years 15 to 59 years 	1
Q4	<p>Which one of the following group of cities have been arranged in the sequence of their ranks i.e., 1,2,3 and 4 in size ?</p> <ol style="list-style-type: none"> Greater Mumbai, Bangaluru, Kolkata, Chennai. Delhi, Greater Mumbai, Chennai, Kolkata. Kolkata, Greater Mumbai, Chennai, Delhi. Greater Mumbai, Kolkata, Delhi, Chennai. <p>OR</p> <p>Palli and nagla belong to which one of the following rural settlements-</p> <ol style="list-style-type: none"> Clustered Semi-clustered Hamleted Dispersed or isolated. 	1
Q5	<p>Which one of the following is not a Push factor?</p> <ol style="list-style-type: none"> Water Shortage Medical/Educational facilities Unemployment Epidemics 	1
Q6	<p>Which one of the following best is the best description of Development?</p> <ol style="list-style-type: none"> An increase in size A constant in size A positive change in quality A simple change in quality 	1

Q7	Which one of the following is not a Plantation Crop? a. Coffee b. Sugarcane c. Wheat d. Rubber	1
Q8	Which one of the following types of cultivation was developed by European colonists? a. Kolkhoz b. Mixed Farming c. Viticulture d. Plantation	1
Q9	Which one of the following does not follow Monoculture? a. Commercial Grain Farming b. Plantation Agriculture c. Mixed Farming d. Dairy Farming	1
Q10	Which one of the following forms of settlement develops along either side of roads, rivers or canals? a. Circular b. Linear c. Cross Shaped d. Square	1
Q11	Which one of the following types of economic activities dominates in all rural settlements? a. Primary b. Tertiary c. Secondary d. Quaternary	1
Q12	The first urban settlement to reach a population of one million was: a. Paris b. New York c. London d. Canberra	1

Q13	Identify the land locked harbor from the followings- a. Vishakhapatnam b. Mumbai c. Ennor d. Haldia	1
Q14	Which one of the following is the longest national highway of India? a. NH-1 b. NH-7 c. NH-6 d. NH-8	1
Q15	Complete the following table by writing appropriate answer: <div style="text-align: center; margin: 20px 0;"> <pre> graph TD A[Means of Communications] --> B[] A --> C[] B --> D["Letter, Telephone, Telegram, Fax, e-mail, Internet, etc."] C --> E["Radio, Television, Cinema, Satellite, Newspaper, Magazines, Public meetings, Seminar and conferences"] </pre> </div>	1
Q16	Name the Headquarters of Northern Railway Zone of India a. Lucknow b. Kanpur c. New Delhi d. Chandigarh	1
Q17	Land degradation in irrigated areas is caused by which of following reason ? a. Gully erosion b. Wind erosion c. Salinization of soil d. Siltation of land	1
Q18	South-West monsoon in India coincides with which cropping season? a. Kharif b. Rabi	1

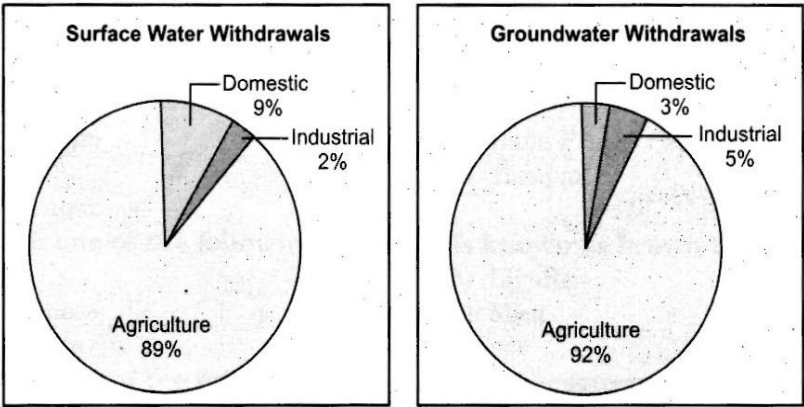
	c. Zaid d. None of the above	
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SECTION B

Q19	“The chief gateways of the world of international trade are the harbours and ports”. Justify the statement with examples.	3
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Q20	How is Possibilism different from Environmental Determinism? Explain with suitable Examples.	3
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Q21	Study the pie-chart given below and answer the questions that follow-	3
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Source : *Earth Trend 2001, World Resource Institute, as given in Govt. of India (2002) Report*
Fig. : Sectoral Usage of Surface Water **Fig.** Sectoral Usage of Groundwater.

- Which sector's share is the maximum in the usage of surface and ground water?
- What is the percentage of agricultural sector in the usage of surface water and Ground water?
- Why the development of irrigation was assigned a very high priority in the Five years plans?

For visually impaired candidates (in place of Q. No. 21)

- Name the two sources where water is available for irrigation.
- Which sector of economy uses the maximum amount of water in our country?
- Why is development of irrigation was assigned a very high priority in five years plans?

1
1
1

Q22	<p>'Development has direct bearings on the deteriorating human conditions'. How poor people are more affected in this process?</p> <p style="text-align: center;">OR</p> <p>Describe the concept of Human Development as defined by United Nations Development Programme (UNDP)</p>	3
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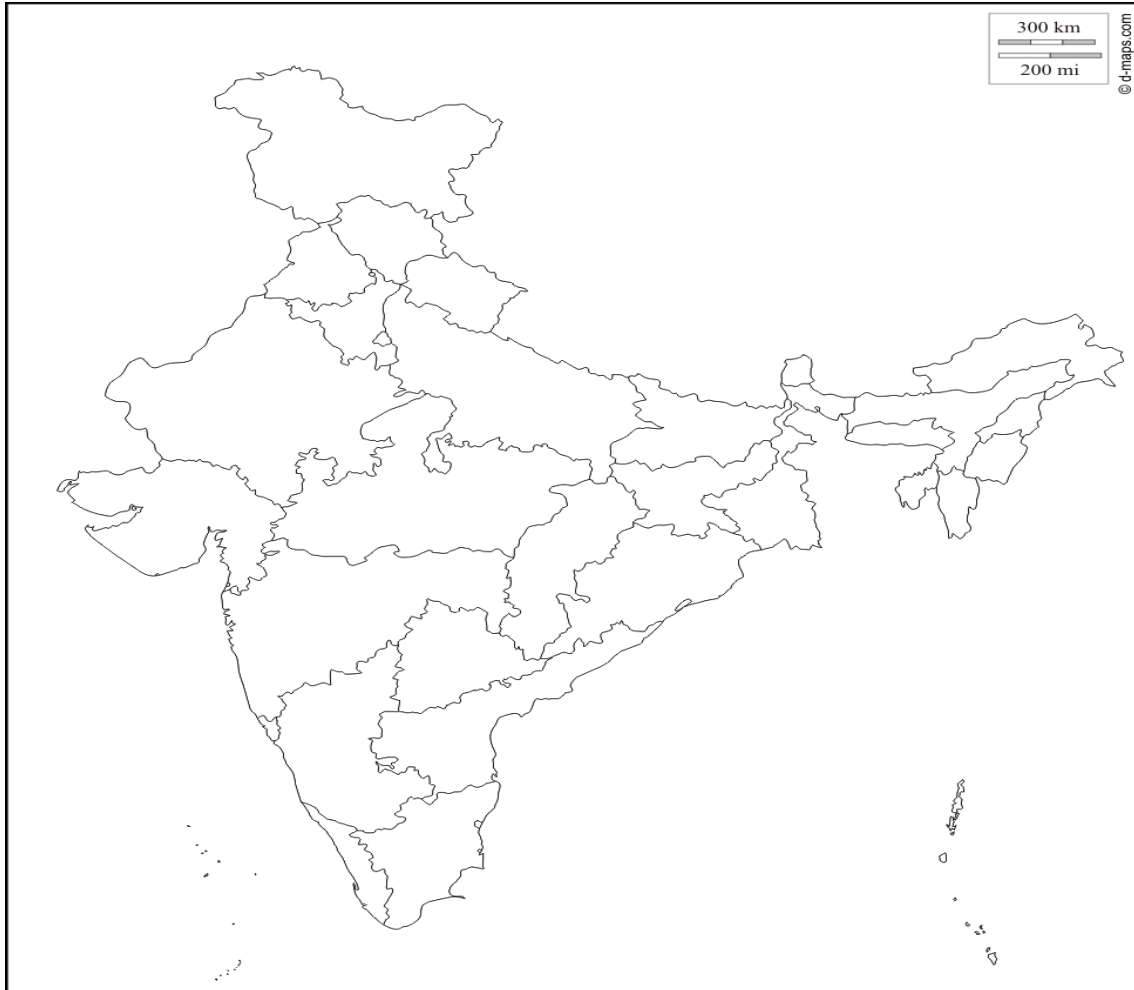
SECTION C

Q23	<p>The challenge of sustainable development requires integration of quest for economic development with environmental concerns. Comprehend the statement in relation to the development of non conventional sources of energy in India by giving suitable example.</p> <p style="text-align: center;">OR</p> <p>Nuclear energy is replacing the conventional sources in India. Do you think it as a viable energy source of energy in future keeping in view the availability of nuclear minerals in India.</p>	5
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Q24	<p>Study the map given below and answer the questions that follows-</p> <div style="text-align: center;"> </div>	3+2=5
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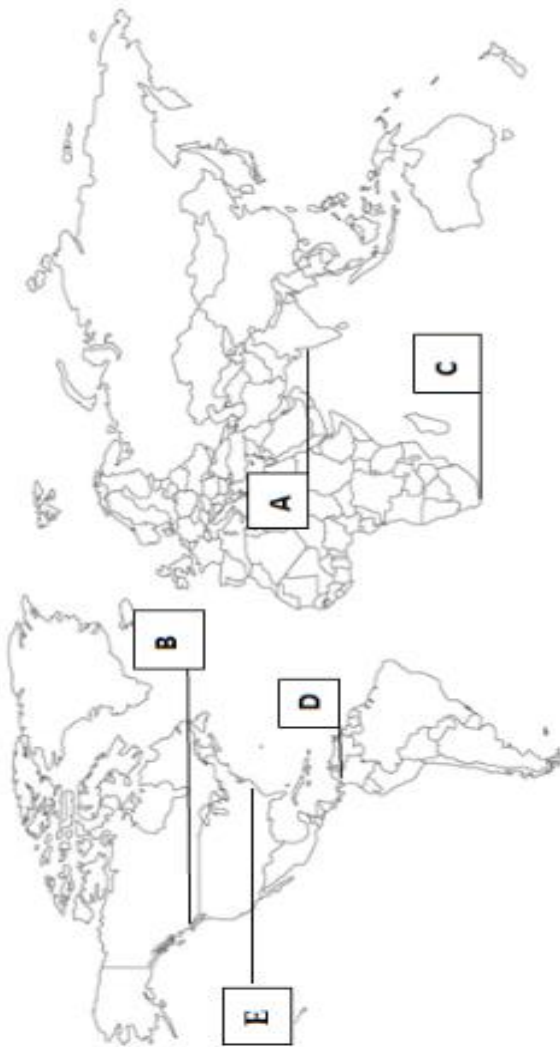
	<p>a. What is the difference between the two areas shown as 'Under Flow' and 'Under Lift' system of irrigation.</p> <p>b. Name any four districts that are benefited by the command area of the canal in stage I and stage II</p> <p>For visually impaired candidates (in place of Q. No. 24)</p> <p>a. How has the introduction of Indira Gandhi Canal irrigation in the dry lands of Rajasthan influenced the environmental conditions of the region positively? Explain in three points.</p> <p>b. Name any four districts benefitted by the Indira Gandhi Canal irrigation system.</p>	<p>3</p> <p>2</p>
Q25	<p>Classify industries on the basis of the raw material used. Explain each of them with examples.</p> <p style="text-align: center;">OR</p> <p>Explain why high-tech industries in many countries are being attracted to the peripheral areas of major metropolitan centres?</p>	5
Q26	<p>"The modern economic development in the world is mainly the result of the development of Quaternary Service." Explain the statement with suitable examples.</p>	5
Q27	<p>What are the modes by which cyber space will expand the contemporary economic and social space of humans?</p> <p style="text-align: center;">OR</p> <p>Which are the major regions of the world having a dense network of airways? Explain with examples.</p>	5
Q28	<p>Land degradation caused by human made processes are more harmful than natural processes in India. Analyse the statement with suitable examples.</p> <p style="text-align: center;">OR</p> <p>How has Noise pollution become hazardous in many big cities of India? Explain by giving suitable examples.</p>	5
Q29	<p>On the outline map of India mark and indicate the following features (any five)</p> <ol style="list-style-type: none"> State having highest urban population Software technology park of Telangana International airport located in Assam Eastern terminal point of Golden Quadrilateral Copper mine located in Rajasthan Bauxite mines in Odisha Southern terminal station of North-South corridor. 	5

Q29



Q30

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प्रतिदर्श प्रश्न पत्र - 2019-20

हिंदी (आधार) (कोड-302)

कक्षा - XII

अंक योजना

निर्धारित समय - 3 घंटे

अधिकतम अंक - 80

सामान्य निर्देश:

- अंक योजना का उद्देश्य मूल्यांकन को अधिकाधिक वस्तुनिष्ठ बनाना है। अंक-योजना में दिए गए उत्तर-बिंदु अंतिम नहीं हैं। ये सुझावात्मक एवं सांकेतिक हैं। यदि परीक्षार्थी ने इनसे भिन्न, किंतु उपयुक्त उत्तर दिए हैं तो उसे उपयुक्त अंक दिए जाएँ।
- मूल्यांकन-कार्य निजी व्याख्या के अनुसार नहीं, बल्कि अंक-योजना में निर्दिष्ट निर्देशानुसार ही यथासंभव किया जाए।
- प्रश्नों के उत्तर यदि बिंदुओं में अपेक्षित हों और परीक्षार्थी अपेक्षा से अधिक बिंदुओं का उल्लेख करे तो सही बिंदु/बिंदुओं पर अंक दें और शेष/अनुपयुक्त बिंदुओं को अनदेखा करें।
- एक ही प्रकार की अशुद्धि के लिए बार-बार अंक न काटें जाएं।

क्र.सं.	संभावित उत्तर संकेत	निर्धारित अंक विभाजन
	खंड - क	
1 (1)	भारतीय सिनेमा एवं हिन्दी (अन्य उपयुक्त शीर्षक भी स्वीकार्य)	1
(2)	गैर-हिन्दी भाषी कलाकारों को हिन्दी माध्यम से ही पहचान, प्रतिष्ठा एवं धन-संपत्ति मिली है।	1
(3)	छोटा परदा यानि टेलीविज़न । इस कारण हिन्दी आम भारतीयों के उपयोग की भाषा बन गई ।	2
(4)	हिन्दी की रचनात्मकता और उर्वरता के प्रमाण हैं	2
(5)	सदी का महानायक से लेखक का तात्पर्य श्री अमिताभ बच्चन से है । इनकी हिन्दी हर दिल की धडकन और हर धडकन की भाषा बन गई ।	2
(6)	हिन्दी उच्चारण की मिठास और गुणवत्ता अद्भुत, प्रभावी और ग्राह्य है। हिन्दी संप्रेषणीय भाषा है ।	2
(7)	उपसर्ग: उत् । प्रत्यय: ईय	2
2. (1)	सुरक्षा की भावना के कारण	1
(2)	माँ की छत्र छाया में वह सुरक्षित महसूस करता है ।	1
(3)	विषम परिस्थितियों में माँ का ही सहारा मिलता है ।	1
(4)	ऋतु-चक्रों की हर वेला में तू ही पुष्प-लड़ी है माँ !	1

	अथवा	
(1)	कवि ने उन ज्ञानियों पर कटाक्ष किया है जो जीवन की सच्चाई को नहीं समझ पाते हैं।	
(2)	जीवन व्यर्थ करना	
(3)	कवि संसार को सच्चा मानकर यह संदेश देना चाहता है कि हमें कर्तव्य का पालन करना चाहिए।	
(4)	यह संसार भगवान को इसलिए प्रिय है क्योंकि यह संसार उसी ने रचा है।	
	खंड-ख	
3.	दिए गए विषयों में से किसी एक विषय पर रचनात्मक लेखन (शब्द सीमा 120-150 शब्द) विषय वस्तु - 3 अंक भाषा - 1 अंक कल्पनाशीलता - 1 अंक	5
4.	(शब्द सीमा 80-100 शब्द) आरम्भ एवं अंत की औपचारिकताएँ - 1 अंक विषय वस्तु - 3 अंक भाषा - 1 अंक	5
5.क)	अमीरों की पार्टियाँ, फ़िल्मी गप-शप इत्यादि ।	1
ख)	तुरन्त घटी घटना की सूचना देना ।	1
ग)	खबरों को ठीक कर छपने लायक बनाना ।	1
घ)	बहुत अल्प समय के लिए किसी समाचार संगठन में कार्यरत ।	1
ड)	किन्हीं दो समाचार पत्रों के नाम।	1
6.	(शब्द सीमा 80-100 शब्द) कहानी से नाटक बनाते हुए संवाद, मूल कथावस्तु, भाषा-शैली, मंच सज्जा, ध्वनि, प्रकाश चरित्र चित्रण, पात्रों की भाव-भंगिमा, दृश्यात्मकता आदि का ध्यान रखना चाहिए । अथवा आलेख लेखन विषय वस्तु - 3 अंक भाषा - 1 अंक प्रस्तुति - 1 अंक अथवा फीचर लेखन विषय वस्तु - 3 अंक	5

	भाषा - 1 अंक प्रस्तुति - 1 अंक	
	खंड-ग	
7.	(शब्द सीमा 30-40 शब्द) क) कैमरे में बंद अपाहिज-रघुवीर सहाय ख) आप अपाहिज क्यों हो, आप को अपाहिज होकर कैसा लगता है ग) वह अपाहिज तथा दर्शक दोनों को साथ रुलाना चाहता है । अथवा क) लक्ष्मण मूर्छा और राम का विलाप, तुलसीदास ख) आप के प्रताप को हृदय में धारण कर हे! प्रभु में तुरंत चला जाऊँगा । ग) बाहुबल, शील, श्रीराम के प्रति प्रेम ।	2+2+2=6
8.	(शब्द सीमा 30-40 शब्द) क) बाल क्रीडाओं का चित्रण, माँ का वात्सल्य ख) बाल मनोविज्ञान के अनुरूप भाषा, अनुप्रास अलंकार, लोक-भाषा । अथवा क) उषाकाल का मानवीकरण । ख) बिम्बात्मक भाषा का प्रयोग, उत्प्रेक्षा अलंकार, मानवीकरण ।	2×2=4
9.	(शब्द सीमा 60-70 शब्द)	3×2=6
क)	<ul style="list-style-type: none"> • बात को सहज रूप से प्रकट करने के लिए सहज स्वाभाविक भाषा का प्रयोग करना । • सही बात को सही शब्द से जोड़ना । • सीधी और सरल बोलचाल की भाषा प्रयोग से कथ्य प्रभावपूर्ण । 	
ख)	<ul style="list-style-type: none"> • कागज और खेत दोनों ही रचना / सृजन के आधार । • खेत में जैसे फसल उगती है उसी प्रकार कागज पर नई रचना । • कागज पर लिखे क्षण भर के अनुभव जीवन भर के लिए स्थायी हो जाते हैं - जैसे क्षण भर की रोपाई अनंतता की कटाई हो । 	
ग)	निर्मलता, कोमलता, पवित्रता आदि के आधार पर कपास और बच्चे के मन की तुलना की गई है ।	
10.	(शब्द सीमा 60-70 शब्द)	2×3=6
क)	<ul style="list-style-type: none"> • कारागार का नाम सुनते ही डर जाना • उँची दीवार देखकर बेहोश हो जाना 	
ख)	<ul style="list-style-type: none"> • डरपोक • लेखिका के प्रतिनिष्ठा और प्रेम 	
ग)	नौकर को अकेले छोड़ देना ।	

	अथवा	
क)	बाजार के आकर्षण को, क्योंकि बाजार में सामान की चकाचौंध हमें लुभाती है और खरीदने पर विवश करती है।	
ख)	जब जेब भरी हो और मन खाली हो तो सर्वाधिक असर करता है । जब जेब खाली, पर मन भरा न हो तब भी जादू चलता है।	
ग)	जिन चीजों को ग्राहक ने जादू के प्रभाव में आराम बढ़ाने के लिए यो ही खरीद लिया था, वे व्यर्थ प्रतीत होते हैं । आराम में मदद नहीं विघ्न पड़ता है ।	
11.		4+4+2=10
क)	(शब्द सीमा 80-100 शब्द) <ul style="list-style-type: none"> • लोक आस्था और विज्ञान के द्वंद्व का सुन्दर चित्रण । विज्ञान का अपना तर्क है और आस्था का अपना विश्वास है । • देशभक्ति जगाना एवं भ्रष्टाचार का विरोध करना । 	4
ख)	(शब्द सीमा 80-100 शब्द) <ul style="list-style-type: none"> • दंगल में चाँद सिंह से कुश्ती के समय । • नए राजकुमार के आने से । <p style="text-align: center;">अथवा</p> <ul style="list-style-type: none"> • चार्ली की अधिकांश फ़िल्में मूक थीं । इसलिए लोगों को निकट लाने के लिए उन्हें अधिक से अधिक मानवीय होना पड़ा । • चार्ली ने अपनी फिल्मों में सामान्य आदमी को स्थान दिया । • उन्होंने स्नेह, करुणा और मानवीय जीवन मूल्यों को साकार किया । 	4
ग)	(शब्द सीमा 30-40 शब्द) <ul style="list-style-type: none"> • शिरीष के फूल कालजयी अवधूत के समान मस्त, बेपरवाह, फक्कड़ और अनासक्त जीवन जीने की प्रेरणा देता है । 	2
12.	(शब्द सीमा 80-100 शब्द)	4×3=12
(क)	यशोधर बाबू के प्रति बच्चों का व्यवहार उचित नहीं था । युवा पीढ़ी के घटते मूल्य : <ul style="list-style-type: none"> • बच्चे बड़ों के प्रति आदर-सम्मान का भाव नहीं रखते । • परम्पराओं एवं संस्कारों का पालन नहीं करते । • मानवीय मूल्यों का निरादर करते हैं । परिवार में बड़ों के प्रति स्नेह, सम्मान और आदर प्रदर्शित करने के विभिन्न तरीके : सटीक उत्तर पर अंक प्रदान करें ।	
(ख)	जूझ शीर्षक का अर्थ है "संघर्ष"- जो कथानायक के जीवन पर भी लागू होता है ।	

(ग)	<ul style="list-style-type: none"> • ऐन फ्रेंक भावुक पर बुद्धिमान बालिका थी । • फिल्मों की शौकीन । • परिश्रमी । • प्रकृति प्रेमी । • नारी के अधिकारों के प्रति सचेत । • चिंतन-मननशील स्वभाव । 	
(घ)	<ul style="list-style-type: none"> • जूझ का अर्थ है संघर्ष । • कथानक आनंदा ने पाठशाला जाने के लिए संघर्ष किया । • कवि बनने के लिए संघर्ष । • संघर्ष के बल पर कथानायक को अपने उद्देश्य की प्राप्ति । 	
(ङ)	शानदार नगर-नियोजन, जल-प्रणाली, तकनीक प्रयोग के प्रमाण, स्व-अनुशासित आदि ।	